Fisher BioReagents®

- **Molecular Biology** see page 383
- **Protein Chemistry** see page 437
- **Cell Biology** see page 452
- **Core Bioreagents & complentary products** see page 479

Fisher BioReagents®

End-to-end solutions for molecular biology, protein chemistry and cell biology

Agar
Agarose
Amino Acids
Antibiotics: Bacterial Selection
Antibiotics: Cell Culture
Biological Buffers
Cell Regulation Compounds
DNA Electrophoresis Buffers
DNA Electrophoresis Products
DNA Ladders
DNA Modifying Enzymes
DNA Precipitation Products
dNTPs
Microbial Media
Northern Blot Products
Nucleic Acid Purification
Nucleic Acid Sequencing
Peptide Sequencing Products
Peptide Synthesis Products
PCR Enzymes
Protein Electrophoresis Buffers
Protein Purification
Protein Stains
Restriction Enzymes
Reverse Transcriptases
RNA Purification Kits
RNA Purification
Southern Blot
Sugar Additives
Tissue Stains
Vitamins
Water
Western Blot

Vital reagents for life science research

- Ultra-high purity
- Prequalified for the life science application
- Fisher BioReagents are among the finest in the industry

Over 1,000 products

Our extensive line includes products for:

- Nucleic Acid Electrophoresis, Purification, Hybridisation and Sequencing
- Polymerase Chain Reaction (PCR)
- Protein Purification and Electrophoresis
- Buffers and Detergents
- Cell Biology/Cell Culture
- Microbiology/Immunology

Purity grades to meet your specific needs
Reagents are prequalified and guaranteed to be suitable for the designated technique.

Stringent specifications
Address critical factors such as purity, water content, levels of contaminants and absence of DNase, RNase or protease activity.

Innovative packaging design
Packaging designed for safety, convenient handling and storage, and preservation of product integrity.

Manufacturing quality
Rigorous QA standards, supplier certification process, customer site audit, cGMP-certified manufacturing facilities, ISO 9001:2008 Quality Management System.

Bench to batch
Fisher BioReagents are packaged in sizes to meet your needs.

Fisher BioReagents®

Fisher BioReagents®: Purity Grades for Every Application

Material Grade	Definition
Certified	Reagent chemicals for which the purity standard is established by Fisher Chemical. Purity is guaranteed to meet published maximum limits of impurities.
DNA Grade	Designates reagents suitable for use in molecular biology applications involving the manipulation of DNA. Tested for specific contaminants, such as DNase and protease.
DNA Synthesis	Designates reagents suitable for use with automated DNA synthesis instrumentation.
Electrophoresis	Material used specifically for electrophoresis applications.
Genetic Analysis Grade	Material that is specially prepared for various molecular cloning applications. Tested for specific contaminants, such as DNase and RNase.
IEF Grade	Material suitable for use with isoelectric focusing of proteins.
Islet Isolation Grade	Material suitable for isolation of pancreatic islets.
Molecular Biology Grade	Designates reagents suitable for use in molecular biology applications. Tested for specific contaminants, such as nucleases and bacteria, where appropriate.
Molecular Genetics	Reagent chemicals that have been specifically purified and assayed for molecular genetics applications.
PCR Grade	Material suitable for use in Polymerase Chain Reaction (PCR).
Peptide Synthesis	Designates reagents suitable for use with protein synthesis instrumentation.
Protein Electrophoresis Grade	Material used specifically for protein electrophoresis applications.
Sequencing	Material designed for use with automated DNA or protein sequencing equipment.
Super Pure	Material with a purity level exceeding the various monograph grades.
Tissue Culture Grade	Materials of superior quality where there are no published standards and that are suitable for use in tissue culture applications.

Packaging for safety, convenience and product quality

Fisher BioReagents come in a wide variety of innovative packaging designed for safety, environmental protection, convenient handling and storage, and preservation of product integrity. The primary container is included in the product description of most chemicals in this catalogue.

Primary containers include:

- Plastic and glass bottles, jars
- Specialised acid containers
- Square poly bottles
- Sterility proof sachets
- Poly pails
- Polypac™ containers
- Compact, laminated boxes

How to use this catalogue

Refer to the index page: "BioReagents by Product Name" to look for the page number of the product you're interested in. Products are also Categorised by application: Molecular Biology, Protein Chemistry, Cell Biology and Core BioReagents (used for multiple applications). Refer to the appropriate chapter to look for the product you're interested in.

1 Product name
2 Quality grade
3 CAS number
4 Packaging and ordering information
5 Product specifications
6 GHS code
7 Application information
8 Recommended storage conditions

1 ▶ **Agarose** — Genetic Analysis Grade ◀ 2
Low-Melting, <1kb DNA/RNA

packaging		Cat. No	Mfr. No ◀ 4
100 g	PolyBottle	1058-3355	BP1360-100

3 ▶ $C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12 ◀ 6

5 ▶
DNase ..... Not detected
EEO (-Mr) ..... <0.15
Gel Strength ..... >500g/cm2
Gelation Temperature ..... <35°C
Melting Temperature ..... 65°C
Moisture Content ..... <10%
RNase ..... Not detected
Sulfate Content ..... <0.15%

7 ▶ **Applications:** Low melting temperature agarose.
Certified recovery of small nucleic acid fragments. Outstanding resolution of PCR and RT-PCR fragments from 50 to 1000 bp.
In-gel PCR. In-gel ligations/transformations.
8 ▶ **Recommended Storage:** RT

Fisher BioReagents®

Fisher BioReagents®

Your source for high purity products for nucleic acid electrophoresis

All Fisher BioReagents agaroses are DNase- and RNase-free to ensure optimal results for your nucleic acid application.

Fisher BioReagents offers 3 different grades of agarose that are functionally tested and pre-qualified for specific applications:

- **Genetic Analysis Grade** – Agarose that yields biologically active DNA or RNA. Testing includes enzymatic performance measurements.
- **Molecular Biology Grade** – Agarose that is suitable for analytical separation of DNA or RNA.
- **PCR Grade** – Agarose that is suitable for the analytical separation of PCR amplicons (<1kb).

Agarose Selection Guide

Type of Agarose	Low EEO	Low Melting (>200bp)	Low Melting (<1kb)	Wide Separation Range	PCR Grade
Cat. No	**BP160**	**BP165**	**BP1360**	**BP1356**	**BP2410**
Recovery of DNA or RNA	●	●	●	●	●
Southern and Northern Blots	●				
DNA/RNA separation 50bp to 1kb			●		●
DNA/RNA separation >1kb	●	●		●	
PCR fragment analysis	●	●	●	●	●
In-gel reactions (ligation, transformations, PCR)			●		
Colony lifts	●				
Available pack sizes	100g and 500g	25g	100g	100g and 500g	100g
Agarose grade	Molecular Biology	Molecular Biology	Genetic Analysis	Genetic Analysis	PCR Grade

Buffers for DNA Electrophoresis Applications

Two buffers commonly used for DNA electrophoresis are Tris-acetate with EDTA and Tris-borate with EDTA. Because the pH of these buffers is neutral, the phosphate backbone of DNA has a net negative charge and migrates to the anode. TAE and TBE have different properties which makes one more suitable than the other for a specific purpose.

TAE: DNase-, RNase- and Protease-free

Cat. No.	Concentration	Size
BP2434-4	1X	4L
BP2434-20	1X	20L
BP1335-500	10X	500mL
BP1335-1	10X	1L
BP1335-4	10X	4L
BP1335-20	10X	20L
BP1330-1	25X	1L
BP1332-500	50X	500mL
BP1332-1	50X	1L
BP1332-4	50X	4L
BP1332-20	50X	20L
BP1331-1	25X	1L**

TBE: DNase- and RNase-free

Cat. No.	Concentration	Size
BP2430-1	1X	1L
BP2430-4	1X	4L
BP2430-20	1X	20L
BP1396-86	5X	1L*
BP1333-1	10X	1L
BP1333-4	10X	4L
BP1333-20	10X	20L
BP1334-1	10X	1L**

*Pre-weighed powder in poly bottle. Dissolve in water.
**Pre-weighed powder in foil pack. Dissolve in water.

Buffer Components for DNA Electrophoresis

Buffer Component

	Size	Cat. No.
Tris Base	500g	BP152-500
	1kg	BP152-1
	5kg	BP152-5
	10kg	BP152-10
	25kg	BP152-25
Boric Acid	500g	BP168-500
	1kg	BP168-1
EDTA Disodium Salt	500g	BP120-500
	1kg	BP120-1

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Buffers for RNA Electrophoresis Applications

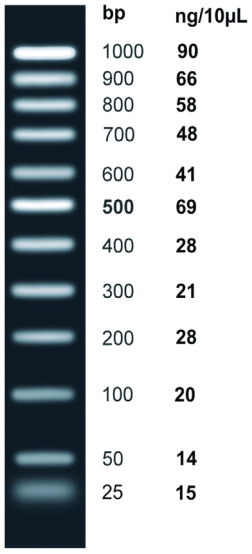
MOPS is a commonly used buffer system for RNA electrophoresis using formaldehyde or formamide-denatured RNA. It is important to use RNase-free chemicals, water and containers when preparing the buffer solution. The typical formulation of 10X MOPS running buffer is 0.4M MOPS (pH 7.0), 0.1M sodium acetate and 0.01M EDTA.

MOPS: DNase-, RNase- and Protease-free		
Cat. No.	**Description**	**Size**
BP308-100	Powder	100g
BP308-500	Powder	500g
BP2900-500	10X Buffer Solution	500mL
BP2900-1	10X Buffer Solution	1L
Water		
BP2484-50	Nuclease-Free	50mL
BP2484-100	Nuclease-Free	100mL
BP2470-1	DNA Grade	1L
BP561-1	RNA Grade	1L
Formaldehyde		
BP531-25	37% by weight	25mL
BP531-500	37% by weight	500mL

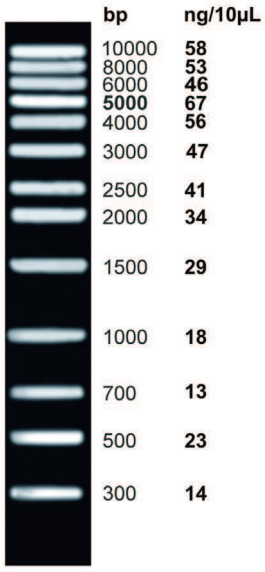
NEW!

Ethanol, Molecular Biology Grade, is an ultrapure molecular biology grade ethanol used for the purification and precipitation of biomolecules such as nucleic acids and proteins.

Cat. No.	Size
BP2818-100	100mL
BP2818-500	500mL
BP2818-4	4 L



BP2571



BP2578

exACTGene® and routine DNA ladders

Ready-to-use (pre-mixed with loading dye), room temperature stable DNA ladders are available for all common electrophoresis applications.

exACTGene DNA ladders are ideal for qualitative analysis, quantitative estimation and size assessment

Cat. No.	Application	Size Range	Number of Bands	Number of Loadings
BP2570-100	PCR fragment analysis	25 to 650bp	14	100/10µL
BP2571-100	PCR fragment analysis, small DNA digests	25 to 1,000bp	12	100/10µL
BP2572-100	Quick check of PCR or enzyme digestion results	50 to 2,000bp	8	100/10µL
BP2573-100	General purpose, small DNA fragments	100 to 1,000bp	10	100/10µL
BP2574-100	Fast run times, small DNA fragments	100 to 2,000bp	11	100/10µL
BP2575-100	Clone identification	100 to 2,686bp	14	100/10µL
BP2576-100	Large size PCR or cloning	300 to 5,000bp	10	100/10µL
BP2577-100	Small and large cloning application	100 to 5,000bp	16	100/10µL
BP2578-100	General purpose, large digested DNA	300 to 10,000bp	13	100/10µL
BP2579-100	General purpose, wide separation range	100 to 10,000bp	19	100/10µL
BP2580-100	General purpose, extra large DNA fragments	300 to 24,000bp	15	100/10µL

Fisher BioReagents® Proteomics Products

Convenience, Quality and Consistency

EZ-Run™ Protein Gel Solution

- Ready to use
- Superior resolution
- Wide separation range on same mini-gel
- No stacking gel required
- Proprietary gel chemistry
- Stable for two years at room temperature
- Compatible with all conventional staining methods
- Suitable for post-electrophoresis applications such as Western Blot transfer and MALDI analysis

EZ-Run™ Protein Gel Solutions

Description	Quantity	Cat. No.
10% EZ-Run Protein Gel Solution	100mL	BP7710-100
	500mL	BP7710-500
12.5% EZ-Run Protein Gel Solution	100mL	BP7712-100
	500mL	BP7712-500
15% EZ-Run Protein Gel Solution	100mL	BP7715-100
	500mL	BP7715-500
20X Running Buffer for EZ-Run Protein Gel Solution	500mL	BP7700-500

Acrylamide, Bis-Acrylamide and Catalysts

Description	Quantity	Cat. No.
Acrylamide	100g	BP170-100
	500g	BP170-500
	5kg	BP170-500
Acrylamide Solution, 40%	1L	BP1402-1
Bis-Acrylamide	25g	BP171-25
	100g	BP171-100
Bis-Acrylamide Solution, 2%	250mL	BP1404-250
Acrylamide:Bis-Acrylamide, 19:1, Powder	100g	BP1364-100
Acrylamide:Bis-Acrylamide, 29:1, Powder	100g	BP1366-100
Acrylamide:Bis-Acrylamide, 37.5:1, Powder	100g	BP1368-100
Acrylamide:Bis-Acrylamide, 19:1, 40% Solution	1L	BP1406-1
Acrylamide:Bis-Acrylamide, 29:1, 40% Solution	1L	BP1408-1
Acrylamide:Bis-Acrylamide, 37.5:1, 40% Solution	1L	BP1410-1
Ammonium Persulfate	25g	BP179-25
	100g	BP179-100
Sodium Persulfate	1kg	BP2637-1
TEMED	20g	BP150-20
	100g	BP150-100

Buffers for Protein Electrophoresis

Description	Quantity	Cat. No.
Tris-Glycine, 10X Solution	1L	BP1306-1
	4L	BP1306-4
	1L*	BP1307-1
Tris-Glycine-SDS, 10X Solution	1L	BP1341-1
	4L	BP1341-4
Tris-Glycine-SDS, 5X Solution, Pre-Weighed Powder*	1L	BP1398-92
Tris-Glycine-SDS, 10X Solution, Pre-Weighed Powder*	1L	BP1342-1
PBS, 10X Solution	500mL	BP399-500
PBS, 10X Solution	1L	BP399-1
PBS, 10X Solution	4L	BP399-4
PBS, 10X Solution	20L	BP399-20
PBS Tablets, 1X Solution	100 tabs**	BP2944-100
PBS with Tween 20, 1X Solution, Pre-Weighed Powder*	10 foil pouches	BP2938-10
Tris-Buffered Saline, 10X (pH 7.4)	100mL	BP2471-100
	500mL	BP2471-500
	1L	BP2471-1
Tris Base	500g	BP152-500
	1kg	BP152-1
	5kg	BP152-5
	10kg	BP152-10
	25kg	BP152-25
Glycine	500g	BP381-500
	1kg	BP381-1
	5kg	BP381-5

*Pre-weighed powder to make 1L. Dissolve in water.

**One tablet dissolved in 200mL water yields 0.01M phosphate buffer, 0.0027M KCl, and 0.137M NaCl, pH 7.4 at 25°C.

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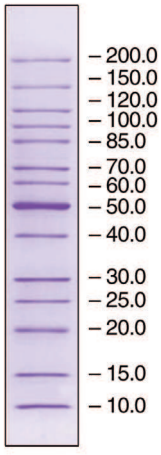
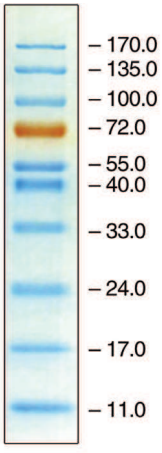
Detergents and Denaturing Agents		
Description	**Quantity**	**Cat. No.**
Brij 35	500g	BP345-500
CHAPS	1g	BP571-1
	5g	BP571-5
SDS	100g	BP166-100
	500g	BP166-500
	5kg	BP166-5
SDS, 10% Solution	200mL	BP2436-200
	1L	BP2436-1
SDS, 20% Solution	200mL	BP1311-200
	1L	BP1311-1
Triton X-100	100mL	BP151-100
	500mL	BP151-500
Tween 20	100mL	BP337-100
	500mL	BP337-500
Tween 80	500mL	BP338-500

EZ-Run™ Protein Standards

- Highly purified markers and ladders provide compact and clear bands
- Prestained standards are indispensable in monitoring protein separation and transfer efficiency
- Reference bands allow quick gel progress assessment
- Unstained standards are most suitable for precise sizing of proteins
- All standards are supplied in loading buffer and are ready to use



4-20% SDS-PAGE BP3602



4-20% SDS-PAGE BP3603

Description	MW Range	No. of Bands	Reference Band	Source	Quantity	Cat. No.
Unstained Protein Standards	14.4 to 118.0 kDa	7		Native Proteins	500uL	BP3600-500
					2 x 500uL	BP3600-1
	10.0 to 200.0 kDa	14	50 kDa	Recombinant Proteins	500uL	BP3602-500
					2 x 500uL	BP3602-1
Prestained Protein Standards	20.0 to 118.0 kDa	6		Native Proteins	500uL	BP3601-500
					2 x 500uL	BP3601-1
	11.0 to 170.0 kDa	10	72 kDa	Recombinant Proteins	500uL	BP3603-500
					2 x 500uL	BP3603-1

Agarose — Genetic Analysis Grade
Broad Separation Range for DNA/RNA

packaging		Mfr. No
100 g	PolyBottle	BP1356-100
500 g	PolyBottle	BP1356-500

$C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12

DNase	Not detected
EEO (-Mr)	<0.15
Gel Strength	>1200g/cm2
Gelation Temperature	34.5°-37.5°C
Moisture Content	<10%
RNase	Not detected
Sulfate Content	<0.15%

Applications: Routine nucleic acid electrophoresis; broad resolution range 500 bp to 25kb. Certified for recovery of DNA and RNA. Reliable digestion and ligation of recovered DNA or RNA fragments. Cloning.
Recommended Storage: RT

Agarose — Protein Electrophoresis Grade
High-EEO

packaging		Mfr. No
100 g	PolyBottle	BP162-100

$C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12

DNase	Not detected
EEO (-Mr)	0.23-0.26
Gel Strength	>650g/cm2
Gelation Temperature	34.5°-37.5°C
Moisture Content	<10%
RNase	Not detected
Sulfate Content	<0.15%

Applications: Immunoelectrophoresis (IEP).
Crossed-IEP. Counter-immunoelectrophoresis (CIEP).
Serum protein electrophoresis.
Recommended Storage: RT

Agarose — DNA Grade
High Gelling Temperature

packaging		Mfr. No
25 g	PolyBottle	BP164-25
100 g	PolyBottle	BP164-100
500 g	PolyBottle	BP164-500

$C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12

DNase	Not detected
EEO (-Mr)	<0.1
Gel Strength	>800g/cm2
Gelation Temperature	<40.5°-43.5°C
Moisture Content	<10%
RNase	Not detected
Sulfate Content	<0.15%

Recommended Storage: RT

Agarose — PCR Grade
Intermediate Melting

packaging		Mfr. No
100 g	AmberGlass	BP2410-100

$C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12

DNase	Not detected
EEO (-Mr)	<=0.12
Gel Strength	>=1200g/cm2
Gelation Temperature	<35.5°C
Melting Temperature	80°C
RNase	Not detected
Sulfate Content	<=0.11%

Applications: Separation of low MW DNA <100 bp. PCR analysis applications.
Recommended Storage: RT

Agarose — Molecular Biology Grade
Low-Melting, Nucleic Acid Recovery

packaging		Mfr. No
25 g	PolyBottle	BP165-25

$C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12

DNase	Not detected
EEO (-Mr)	<0.10
Gel Strength	>200g/cm2
Gelation Temperature	26°-30°C
Melting Temperature	65°C
Moisture Content	<10%
RNase	Not detected
Sulfate Content	<0.10%

Applications: Original low melting temperature agarose. Nucleic acid separation from 200 bp to 25kb.
Preparative DNA and RNA electrophoresis. Ideally suited for DNA and RNA recovery. Cloning of tissue culture cells and viral plaque assays.
Recommended Storage: RT

Agarose — Molecular Biology Grade
Low-EEO/Multi-Purpose

packaging		Mfr. No
100 g	PolyBottle	BP160-100
500 g	PolyBottle	BP160-500

$C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12

DNase	Not detected
EEO (-Mr)	0.09-0.13
Gel Strength	>1200g/cm2
Gelation Temperature	34°-45°C
Moisture Content	<10%
RNase	Not detected
Sulfate Content	<0.15%

Applications: Routine electrophoresis of DNA and RNA; wide resolution range 500 bp to 23kb. High gel strength ideal for Southern and Northern blotting. PCR >1kb.
Immunoprecipitation techniques. Baculovirus screening.
Colony lifts.
Recommended Storage: RT

Agarose — Genetic Analysis Grade
Low-Melting, <1kb DNA/RNA

packaging		Mfr. No
100 g	PolyBottle	**BP1360-100**

$C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12

DNase	Not detected
EEO (-Mr)	<0.15
Gel Strength	>500g/cm2
Gelation Temperature	<35°C
Melting Temperature	65°C
Moisture Content	<10%
RNase	Not detected
Sulfate Content	<0.15%

Applications: Low melting temperature agarose.
Certified recovery of small nucleic acid fragments. Outstanding resolution of PCR and RT-PCR fragments from 50 to 1000 bp.
In-gel PCR. In-gel ligations/transformations.
Recommended Storage: RT

Agarose — Protein Electrophoresis Grade
Medium-EEO

packaging		Mfr. No
100 g	PolyBottle	**BP161-100**

$C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12

DNase	Not detected
EEO (-Mr)	0.16-0.19
Gel Strength	>1000g/cm2
Gelation Temperature	34.5°-37.5°C
Moisture Content	<10%
RNase	Not detected
Sulfate Content	<0.15%

Applications: Ideal alternative to polyacrylamide for serum protein electrophoresis. Immunoelectrophoresis.
Electrophoresis of nucleic acids.
Recommended Storage: RT

Agarose — Molecular Biology Grade
Agarose Gel-Loading Dye, 6X

packaging		Mfr. No
5 mℓ	PolyBottle	**BP633-5**

description	Dark purple slightly viscous liquid
DNase	Not detected
Optical Absorbance (dilution 1:500 with deionized water) at 525nm	0.3-0.6
Optical Absorbance (dilution 1:500 with deionized water) at 588-594nm	0.5-0.8
Optical Absorbance (dilution 1:500 with deionized water) at 635-641nm	0.5-0.7
RNase	Not detected

Applications: This tracking dye is added to DNA and RNA samples prior to electrophoresis on agarose gels.
Components: Amaranth (<1.0%), Ficoll* (15%), Proprietary Component (<1.0%), and Water.
[915-67-3 (Amaranth)] ; [26873-85-8 (Ficoll*)]
Recommended Storage: RT

Bromophenol Blue
Free Acid

packaging		Mfr. No
25 g	AmberGlass	**BP115-25**

$C_{19}H_{10}Br_4O_5S$ EINECS: 204-086-2
CAS: 115-39-9
MW: 669.96

$E^{1\%}_{1cm}$	>=1000g-1cm-1
Lambda Max.	591nm ±2nm
Loss on Drying (at 105°C)	<=5%
Solubility	To pass test

Applications: Used as a tracking dye in electrophoresis.
Recommended storage: RT

Bromophenol Blue Sodium Salt

packaging		Mfr. No
25 g	AmberGlass	**BP114-25**

$C_{19}H_9Br_4NaO_5S$ P261, P302+P352, P280, P305+P351+P338
CAS: 62625-28-9
MW: 691.94
H335, H319, H315

Clarity of Solution	To pass test
$E^{1\%}_{1cm}$	>=800g-1cm-1
Lambda Max. in 0.05M Sodium Acetate	585-595nm
Visual Transition Interval	To pass test

Applications: Commonly used as a tracking dye in electrophoresis.
Recommended storage: RT

Boric Acid — Electrophoresis
Crystalline

packaging		Mfr. No
500 g	PolyBottle	**BP168-500**
1 kg	PolyBottle	**BP168-1**

H_3BO_3 H360FD
CAS: 10043-35-3 P310, P201, P308+P313, P304+P340
MW: 61.83
EINECS: 233-139-2

Assay	>=99.0%
Calcium (Ca)	<=0.005%
Chloride (Cl)	<=0.001%
DNase	Not detected
Electrophoresis	To pass test
Heavy Metals (Pb)	<=0.001%
Insoluble in Methanol	<=0.005%
Iron	<=0.001%
Nonvolatile with Methanol	<=0.05%
Phosphate (PO_4)	<=0.001%
Sulfate (SO_4)	<=0.010%

Applications: This high-purity electrophoresis-grade reagent is used in the preparation of Tris/Borate/EDTA electrophoresis buffers.
Recommended Storage: RT

Ethidium Bromide

packaging		Mfr. No
1 g	AmberGlass	**BP102-1**
5 g	AmberGlass	**BP102-5**

$C_{21}H_{20}BrN_3$
CAS: 1239-45-8
MW: 394.3
EINECS: 214-984-6

H341, H330, H302
P310, P281,
P304+P340

$E^{1\%}_{1cm}$	>=100ℓ g-1cm-1
Lambda Max.	480nm ±2nm
Loss on Drying (at 105°C)	<=5%
Solubility	To pass test

Applications: Fluorometric detection of double stranded nucleic acids. Also acts as an RNA polymerase inhibitor, and in separation of high molecular weight DNAs.
Recommended storage: RT

Ethidium Bromide — Molecular Biology
1% Solution

packaging		Mfr. No
10 mℓ	AmberPolyBottle	**BP1302-10**

$C_{21}H_{20}BrN_3$
CAS: 1239-45-8
MW: 394.3
EINECS: 214-984-6

H331, H341
P310, P281,
P304+P340

Appearance	Clear, reddish-brown liquid
DNase	Not detected
Electrophoresis	To pass test
$E^{1\%}_{1cm}$	.>100 absorbance units
Lambda Max.	480nm ±2nm
Protease	Not detected
RNase	Not detected

Filtered through a 0.2-micron filter.
Recommended storage: RT

Formaldehyde — Molecular Biology
37% by Weight

packaging		Mfr. No
25 mℓ	AmberGlass	**BP531-25**
500 mℓ	AmberGlass,EcoSafPak*	**BP531-500**

CH_2O
CAS: 50-00-0
MW: 30.02
EINECS: 200-001-8
H226, H314, H317, H370,
H311, H331, H301, H351

P280, P301+P330+P331,
P305+P351+P338,
P304+P340, P302+P352,
P301+P312, P210

Assay (HCHO)	>=36.5-38%
Chloride (Cl)	<=5ppm
Color (APHA)	<=10
Heavy Metals (Pb)	<=5ppm
Iron	<=2ppm
Methanol	10-15%
pH (at 25°C)	3 to 4
Residue after ignition	<=0.005%
Sulfate (SO_4)	<=0.002%
Titratable Acid	<=0.006mEq/g

Applications: Molecular Biology-grade Formaldehyde is used for denaturing RNA.
Components: 37% Formaldehyde, 15% Methyl Alcohol and 48% Water. [50-00-0 (Formaldehyde)] ; [67-56-1 (Methyl Alcohol)]
Recommended Storage: RT
UN 1198; DOT Class 3:Flammable Liquid
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Glycerol Gel-Loading Dye, 5X — Molecular Biology
Contains 30% Glycerol

packaging		Mfr. No
1 mℓ	PolyTube	**BP645-1**
5 mℓ	PolyBottle	**BP645-5**

DNase	Not detected
Optical Absorbance (dilution 1:500 with deionized water) at 525nm	0.25-0.45
Optical Absorbance (dilution 1:500 with deionized water) at 588-594nm	0.30-0.45
Optical Absorbance (dilution 1:500 with deionized water) at 635-641nm	0.25-0.40
RNase	Not detected

Applications: This dye is added to DNA and RNA samples prior to electrophoresis on agarose gels.
Components: Glycerol (30%), Proprietary Components (<6%), and Water [56-81-5 (Glycerol)]
Recommended Storage: RT

Glyoxal — Electrophoresis
40% w/v

packaging		Mfr. No
500 mℓ	AmberGlass	**BP1370-500**

$C_2H_2O_2$
CAS: 107-22-2
MW: 58.04
EINECS: 203-474-9
H341, H332, H319, H315, H317

P280, P261, P308+P313,
P305+P351+P338,
P302+P352, P333+P313

Density (at 20°C)	1.26-1.29g/mℓ
Electrophoresis of RNA	To pass test
pH (at 25°C)	2.0 to 3.5

Applications: Glyoxal is used to denature RNA prior to agarose gel electrophoresis. Since Glyoxal is readily oxidized by air, it should be deionized with a mixed-bed resin, dispensed into aliquots, and then stored at -20°C.
Recommended Storage: 4°C
UN 1760; DOT Class 8:Corrosive

Methanol — Sequencing
Peroxide-free

packaging		Mfr. No
1 ℓ	AmberGlass,EcoSafPak*	**BP1105-1**
4 ℓ	AmberGlass	**BP1105-4**

CH_4O
CAS: 67-56-1
MW: 32.04
EINECS: 200-659-6
H225, H301, H311, H331, H370

P301+P310, P280,
P302+P350, P304+P340,
P210, P240

Acetone	To pass test
Assay	>=99.9%
Color (APHA)	<=5
Fluorescence Background (as Quinine Sulfate)	To pass test
Fluorescent Derivatizable Amines	To pass test
IR	Conforms to standard
LC Gradient Suitability	To pass test
Optical Absorbance at 205nm	<=1.00
Optical Absorbance at 220nm	<=0.30
Optical Absorbance at 230nm	<=0.15
Optical Absorbance at 254nm	<=0.025
Peroxides	<=0.001%
Reactive Impurities with H_2SO_4	Not detected
Refractive Index (at 25°C)	1.3260-1.3300
Residue after evaporation	<=3 ppm
Solubility in H_2O	To pass test
Substances Reducing Permanganate	To pass test
Titratable Acid	<=0.0003mEq/g
Titratable Base	<=0.0002mEq/g
Water	<=0.1%

Applications: Used in staining and destaining protein electrophoresis gels, in HPLC, and in other biological applications.
Recommended storage: RT
Also available in recyclable FisherPak* and NOWPak* containers. EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Sequencing Gel-Loading Dye, 3X
Contains 98% Formamide

packaging		Mfr. No
1 mℓ	PolyTube	**BP639-1**

DNase	Not detected
Optical Absorbance (dilution 1250 with deionized water) at 525nm	0.40-0.50
Optical Absorbance (dilution 1250 with deionized water) at 588-594nm	0.60-0.75
Optical Absorbance (dilution 1250 with deionized water) at 635-641nm	0.50-0.67
RNase	Not detected

Applications: This loading dye also denatures nucleic acid samples prior to electrophoresis on sequencing gels.
Components: 98% Formamide (<90%), Proprietary Component (<3%), and Water.
[75-12-7 (98% Formamide)]

TBE Buffer Mix — Electrophoresis
Dry Powder Mix of Tris/Boric Acid/EDTA

packaging		Mfr. No
86.1 g	PolyBottle	**BP1396-86**

CAS: 610769-35-2
H360FD, H315, H319, H335
P280, P305+P351+P338, P201,
P308+P313

DNase	Not detected
Electrophoresis of DNA with 5X diluted buffer	Pass test
pH (at 25°C)	8.3±0.2
RNase	Not detected
Solubility (in 1ℓ final volume)	Clear, colorless with no suspending impurities

Recommended Storage: RT
Applications: Electrophoresis buffer.
Makes 1 liter of 5X buffer. Final concentration of components in 1X buffer: 0.089M Tris, 0.089M Boric Acid, 0.002M EDTA.
[77-86-1 (Tris)] ; [6381-92-6 (EDTA)] ; [10043-35-3 (Boric Acid)]

Tris-Acetate-EDTA — Electrophoresis
25X Powder

packaging		Mfr. No
1	FoilPack	**BP1331-1**

CAS: 135852-26-5

Conductivity of a 1X Solution (at 25°C)	1300±200µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.3±0.1
Protease	Not detected
RNase	Not detected
Solubility	To pass test

Applications: Tris-Acetate-EDTA (TAE) is commonly used as a buffer for nucleic acid electrophoresis.
Each pack contains preweighed powder to make 1ℓ of a 25X solution (1M Tris-Acetate and 0.025M EDTA).
Components: Tris (64.36%), Acetic Acid, Sodium Salt (31.91%) and Ethylenediamine Tetraacetic Acid (3.72%).
[77-86-1 (Tris)] ; [127-09-3 (Acetic Acid, Sodium Salt)] ; [60-00-4 (EDTA)]
Recommended Storage: RT

Tris-Borate-EDTA — Electrophoresis
10X Powder

packaging	Mfr. No
1	**BP1334-1**

CAS: 610769-35-2
H360FD, H315, H319, H335
P280, P305+P351+P338, P201,
P308+P313

DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.3±0.1
Protease	Not detected
RNase	Not detected
Solubility (1X concentration 1g/60mℓ H_2O)	Clear, colorless with no suspending impurities

Applications: Tris-Borate-EDTA (TBE) is commonly used as a buffer for nucleic acid electrophoresis.
Each pack contains preweighed powder to make 1ℓ of a 10X solution (0.89M Tris Base, 0.89M Boric Acid, and 0.02M EDTA).
Components: Tris (63.91%), Boric Acid (32.54%), and EDTA (3.55%).
[77-86-1 (Tris)] ; [10043-35-3 (Boric Acid)] ; [60-00-4 (EDTA)]
Recommended Storage: RT

Tris Buffer
2M Solution
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP1759-100**
500 mℓ	PolyBottle	**BP1759-500**

CAS: 77-86-1
EINECS: 201-064-4
H315, H319, H335

P280, P305+P351+P338, P261, P302+P352, P264, P271

Arsenic	<0.0005%
Copper	<0.0001%
DNase	Not detected
Iron	<0.0001%
Lead	<0.0001%
Magnesium (Mg)	<0.0005%
Optical Absorbance of a 1M Solution at 280nm	<0.05
pH (at 25°C)	10.1-11.1
Protease	Not detected
RNase	Not detected
Tris Concentration	2±0.05M

Applications: Tris is a buffer component in molecular biology, tissue culture, and electrophoresis procedures.
Tris Solution, 2M, provides a convenient stock solution for preparing Tris buffers.
Recommended Storage: RT

Tris Buffer
0.3M Solution
Molecular Biology

packaging		Mfr. No
500 mℓ	PolyBottle	**BP1761-500**
1 ℓ	PolyBottle	**BP1761-1**

CAS: 77-86-1
EINECS: 201-064-4

DNase	Not detected
Molarity	0.3±0.010
pH (at 25°C)	10.1 to 11.1
Protease	Not detected
RNase	Not detected

Applications: Tris is a buffer component in molecular biology, tissue culture, and electrophoresis procedures.
Tris Solution, 0.3M, provides a convenient stock solution for these applications.
Recommended Storage: RT

Tris-EDTA
100X Powder
Molecular Biology

packaging		Mfr. No
1	FoilPack	**BP1339-1**

CAS: 38641-82-6
H315, H319, H335
P280, P261, P305+P351+P338, P302+P352, P264, P271

Conductivity of a 1X Solution (at 25°C)	560 to 740µmhos/cm
DNase	Not detected
pH (1X solution) (at 23°C)	8.0±0.1
Protease	Not detected
RNase	Not detected
Solubility	To pass test

Applications: Tris-EDTA (TE) is routinely used for suspending nucleic acid samples.
Each pack contains preweighed powder to make 1ℓ of a 100X solution (1.0M Tris Base and 0.1M EDTA).
[77-86-1 (Tris)] ; [60-00-4 (EDTA)]
Recommended Storage: RT

Tris Hydrochloride Solution pH 7.0
1M solution, High Purity, Low Metal
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP1756-100**
500 mℓ	PolyBottle	**BP1756-500**

CAS: 1185-53-1
EINECS: 214-684-5
H315, H319

P280, P305+P351+P338, P302+P352

Arsenic	<0.0005%
Calcium (Ca)	<0.0002%
Copper	<0.0001%
DNase	Not detected
Iron	<0.0001%
Lead	<0.0001%
Magnesium (Mg)	<0.0005%
Molar Concentration	1±0.04M
Protease	Not detected
RNase	Not detected
Zinc	<0.0001%

Applications: Tris is a buffer component in molecular biology, tissue culture, and electrophoresis procedures.
[77-86-1 (Tris)] ; [1185-53-1 (Tris HCl)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris Hydrochloride Solution pH 7.5
1M solution, High Purity, Low Metal
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP1757-100**
500 mℓ	PolyBottle	**BP1757-500**

CAS: 1185-53-1
EINECS: 214-684-5
H315, H319

P280, P305+P351+P338, P302+P352

Arsenic	<0.0005%
Calcium (Ca)	<0.0002%
Copper	<0.0001%
DNase	Not detected
Iron	<0.0001%
Lead	<0.0001%
Magnesium (Mg)	<0.0005%
Molar Concentration	1±0.04M
Protease	Not detected
RNase	Not detected
Zinc	<0.0001%

Applications: Tris is a buffer component in molecular biology, tissue culture, and electrophoresis procedures.
[77-86-1 (Tris)] ; [1185-53-1 (Tris HCl)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris Hydrochloride Solution pH 8.0 — Molecular Biology
1M solution, High Purity, Low Metal

packaging		Mfr. No
100 mℓ	PolyBottle	**BP1758-100**
500 mℓ	PolyBottle	**BP1758-500**

CAS: 1185-53-1
EINECS: 214-684-5
H315, H319
P280, P305+P351+P338, P302+P352

Arsenic	<0.0005%
Calcium (Ca)	<0.0002%
Copper	<0.0001%
DNase	Not detected
Iron	<0.0001%
Lead	<0.0001%
Magnesium (Mg)	<0.0005%
Molar Concentration	1±0.04M
Protease	Not detected
RNase	Not detected
Zinc	<0.0001%

Applications: Tris is a buffer component in molecular biology, tissue culture, and electrophoresis procedures.
[77-86-1 (Tris)] ; [1185-53-1 (Tris HCl)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris-Acetate-EDTA — Electrophoresis
25X Solution

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1330-1**

CAS: 135852-26-5
H315, H319
P264, P280, P305+P351+P338, P302+P352

Conductivity of a 1X Solution (at 25°C)	Report
DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.3±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-Acetate-EDTA (TAE) is commonly used as a buffer for nucleic acid electrophoresis.
1M Tris-Acetate and 0.025M EDTA.
Components: Tris (11.31%), EDTA Disodium Salt (0.87%), Acetic Acid, Sodium Salt (7.66%), and Hydrogen Chloride (3.74%).
[77-86-1 (Tris)] ; [6381-92-6 (EDTA Disodium Salt)] ; [127-09-3 (Acetic Acid, Sodium Salt)] ; [7647-01-0 (Hydrogen Chloride)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris-Acetate-EDTA — Electrophoresis
10X Solution

packaging		Mfr. No
500 mℓ	PolyBottle	**BP1335-500**
1 ℓ	PolyBottle	**BP1335-1**
4 ℓ	PolyPac*	**BP1335-4**
20 ℓ	PolyPac*	**BP1335-20**

CAS: 135852-26-5
H315, H319
P264, P280, P305+P351+P338, P302+P352

DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.2-8.4
Protease	Not detected
RNase	Not detected

Applications: Tris-Acetate-EDTA (TAE) is commonly used as a buffer for nucleic acid electrophoresis.
0.4M Tris-Acetate and 0.01M EDTA.
Components: Tris (<5.0%), Acetic Acid (1.0%), and EDTA (<1%).
[77-86-1 (Tris)] ; [64-19-7 (Acetic Acid)] ; [60-00-4 (EDTA)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris-Acetate-EDTA — Electrophoresis
50X Solution

packaging		Mfr. No
500 mℓ	PolyBottle	**BP1332-500**
1 ℓ	PolyBottle	**BP1332-1**
4 ℓ	PolyPac*	**BP1332-4**
20 ℓ	PolyPac*	**BP1332-20**

CAS: 135852-26-5
H315, H319
P264, P280, P305+P351+P338, P302+P352

Conductivity of a 1X Solution (at 25°C)	Report
DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.2-8.4
Protease	Not detected
RNase	Not detected

Applications: Tris-Acetate-EDTA (TAE) is commonly used as a buffer for nucleic acid electrophoresis.
2M Tris-Acetate and 0.050M EDTA.
Components: Tris (24%), Acetic Acid (5.0%), and EDTA (<2%).
[77-86-1 (Tris)] ; [64-19-7 (Acetic Acid)] ; [60-00-4 (EDTA)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris-Acetate-EDTA
1X Solution
Electrophoresis

packaging		Mfr. No
4 ℓ	PolyPac*	**BP2434-4**
20 ℓ	PolyPac*	**BP2434-20**

CAS: 135852-26-5

Conductivity of a 1X Solution (at 25°C)	Report
DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.3±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-Acetate-EDTA (TAE) is commonly used as a buffer for nucleic acid electrophoresis.
0.04M Tris-Acetate and 0.001M EDTA.
[77-86-1 (Tris)] ; [64-19-7 (Acetic Acid)] ; [60-00-4 (EDTA)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris-Borate-EDTA
10X Solution
Electrophoresis

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1333-1**
4 ℓ	PolyPac*	**BP1333-4**
20 ℓ	PolyPac*	**BP1333-20**

CAS: 610769-35-2
H360FD, H315, H319
P280, P305+P351+P338, P308+P313,
P201

Conductivity of 1X solution (at 25°C)	750-1250µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.3±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-Borate-EDTA (TBE) is commonly used as a buffer for nucleic acid electrophoresis.
0.89M Tris Base, 0.89M Boric Acid, and 0.02M EDTA.
Components: Tris (10.8%), Boric Acid (5.5%), and EDTA (0.6%) [77-86-1 (Tris)] ; [10043-35-3 (Boric Acid)] ; [60-00-4 (EDTA)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris-Borate-EDTA
1X Solution
Electrophoresis

packaging		Mfr. No
1 ℓ	PolyBottle	**BP2430-1**
4 ℓ	PolyPac*	**BP2430-4**
20 ℓ	PolyPac*	**BP2430-20**

CAS: 610769-35-2

DNase	Not detected
Electrophoresis	To pass test
pH of 1X solution (at 25°C)	8.3±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-Borate-EDTA (TBE) is commonly used as a buffer for nucleic acid electrophoresis.
0.089M Tris Base, 0.089M Boric Acid, and 0.002M EDTA.
[77-86-1 (Tris)] ; [6381-92-6 (EDTA)] ; [10043-35-3 (Boric Acid)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris-EDTA
100X Solution
Molecular Biology

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1338-1**
4 ℓ	PolyPac*	**BP1338-4**

CAS: 38641-82-6
H315, H319
P280, P305+P351+P338,
P302+P352

DNase	Not detected
pH (1X solution) (at 23°C)	8.0±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-EDTA (TE) is routinely used for suspending nucleic acid samples.
1.0M Tris Base and 0.1M EDTA.
[77-86-1 (Tris)] ; [60-00-4 (EDTA)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Xylene Cyanole FF
Bluish-green Powder
Electrophoresis

packaging		Mfr. No
10 g	AmberGlass	**BP565-10**

$C_{25}H_{27}N_2NaO_6S_2$
CAS: 2650-17-1
MW: 538.61
EINECS: 220-167-5

H315, H319, H335
P280, P305+P351+P338

Absorption Maxima	614±2nm
DNase	Not detected
Loss on Drying (at 105°C)	<=10.0%
Molar Absorbance (Em, H2O)	>30.000
RNase	Not detected

Applications: This dye is used in electrophoretic applications to mark the migration position of nucleic acid fragments.
Recommended Storage: RT
C.I. 42135

100 Base-Pair Ladder

packaging		Mfr. No
50 µg	PolyMicroTube	**BP2551-50**

Applications: For precise sizing of double-stranded DNA fragments from 100-2000 bp on agarose gels.
Supplied at 1µg/µℓ in TE buffer.
Consists of multiple repeats of a 100 bp fragment.
Not designed for quantifying DNA content in a sample.
Can be visualized by ethidium bromide staining or by autoradiography (after radiolabeling).
Recommended Gel: 1.5% agarose with loading amount of 2.0µg/lane.
Do not heat before loading.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Fisher BioReagents* *ex*ACTG*ene** 50 bp Mini DNA Ladder

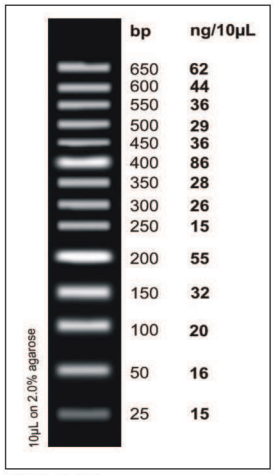
Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 25-650 bp range
- **Number of Bands:** 14
- Higher intensity reference band at 200 and 400 bp
- Ideal for size determination and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: PCR Size Confirmation

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).

STORAGE CONDITIONS: Stable at room temperature for two years.



BP2570-100

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1021-4973**	BP2570-100

Fisher BioReagents* *ex*ACTG*ene** Low Range DNA Ladder

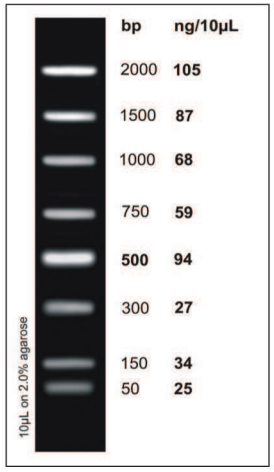
Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 50-2000 bp range
- **Number of Bands:** 8
- Higher intensity reference band at 500 bp
- Ideal for size assessment and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: Quick Check of PCR Amplicons or Enzyme Digestion results

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).

STORAGE CONDITIONS: Stable at room temperature for two years.



BP2572-100

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1022-4973**	BP2572-100

Fisher BioReagents* *ex*ACTG*ene** 100 bp PCR DNA Ladder

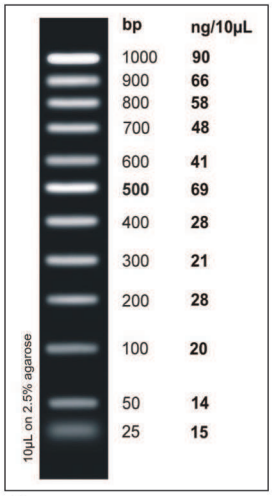
Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 25-1000 bp range
- **Number of Bands:** 12
- Higher intensity reference band at 500 bp
- Ideal for size assessment and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: PCR Size Confirmation and Small DNA Digests

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).

STORAGE CONDITIONS: Stable at room temperature for two years.



BP2571-100

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1065-7633**	BP2571-100

Fisher BioReagents* *ex*ACTG*ene** Low Range Plus DNA Ladder

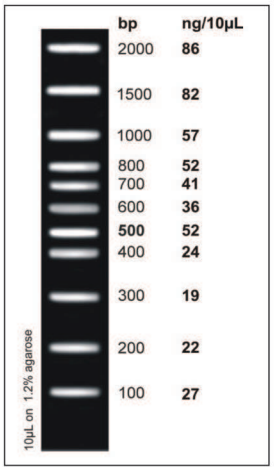
Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 100-2000 bp range
- **Number of Bands:** 11
- Higher intensity reference band at 500 bp
- Ideal for size assessment and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: Fast Run Times, Small Size DNA

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).

STORAGE CONDITIONS: Stable at room temperature for two years.



BP2574-100

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1002-1463**	BP2574-100

Fisher BioReagents* *ex*ACTG*ene** 100 bp DNA Ladder

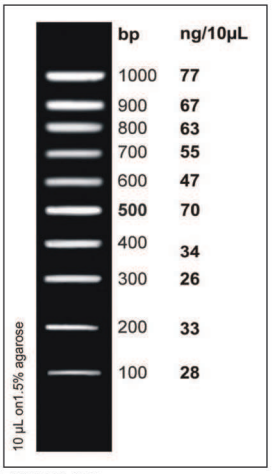
Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 100-1000 bp range
- **Number of Bands:** 10
- Higher intensity reference band at 500 bp
- Ideal for size assessment and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: General Purpose and Small Size DNA

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).

STORAGE CONDITIONS: Stable at room temperature for two years.



BP2573-100

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1006-1413**	BP2573-100

Fisher BioReagents* *ex*ACTG*ene** Mid Range DNA Ladder

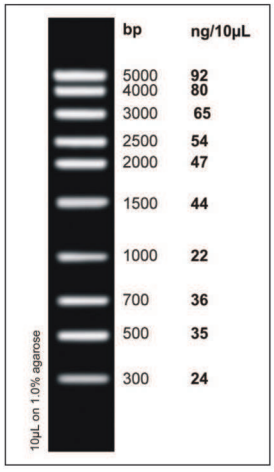
Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 300-5000 bp range
- **Number of Bands:** 10
- Ideal for size assessment and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: Large Size PCR confirmation or cloning application

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).

STORAGE CONDITIONS: Stable at room temperature for two years.



BP2576-100

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1003-1463**	BP2576-100

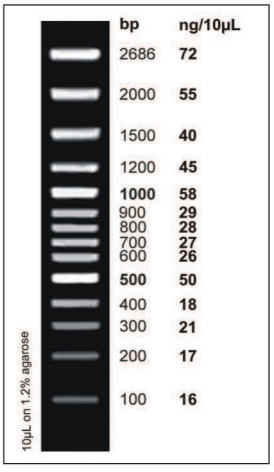
Fisher BioReagents* *ex*ACTG*ene** Cloning DNA Ladder

Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 100-2686 bp range
- **Number of Bands:** 14
- Higher intensity reference band at 500 and 1000 bp
- Ideal for size assessment and quantitative determination of DNA mass
- A 2686 bp (pUC 19) reference band for clone identification
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: Clone Identification

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).



BP2575-100

STORAGE CONDITIONS: Stable at room temperature for two years.

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1030-6943**	BP2575-100

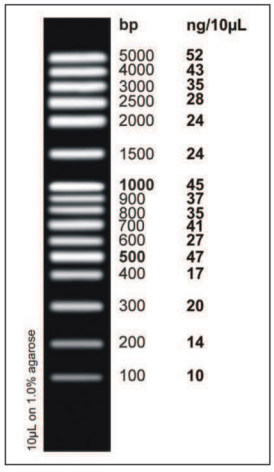
Fisher BioReagents* *ex*ACTG*ene** Mid Range Plus DNA Ladder

Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 100-5000 bp range
- **Number of Bands:** 16
- Higher intensity reference band at 500 and 1000 bp
- Ideal for size assessment and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: Small and Large Cloning Applications

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).



BP2577-100

STORAGE CONDITIONS: Stable at room temperature for two years.

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1012-2823**	BP2577-100

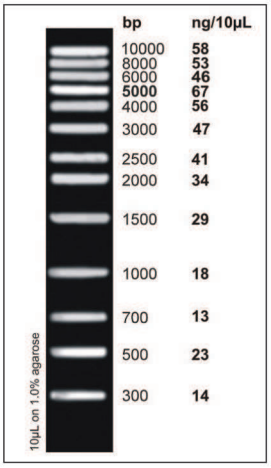
Fisher BioReagents* *ex*ACTG*ene** 1kb DNA Ladder

Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 300-10,000 bp range
- **Number of Bands:** 13
- Higher intensity reference band at 5000 bp
- Ideal for size assessment and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: General Purpose, Large Digested DNA

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).



BP2578-100

STORAGE CONDITIONS: Stable at room temperature for two years.

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1048-9883**	BP2578-100

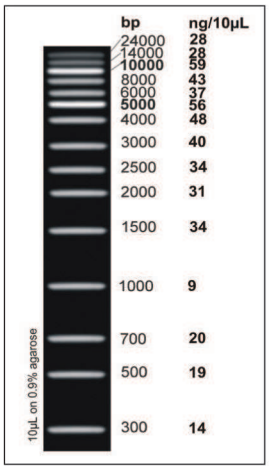
Fisher BioReagents* *ex*ACTG*ene** 24kb Max DNA Ladder

Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 300-24,000 bp range
- **Number of Bands:** 15
- Higher intensity reference band at 10,000 bp
- Ideal for wide range size assessment and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: General Purpose, Extra Large Size DNA

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).



BP2580-100

STORAGE CONDITIONS: Stable at room temperature for two years.

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1069-9163**	BP2580-100

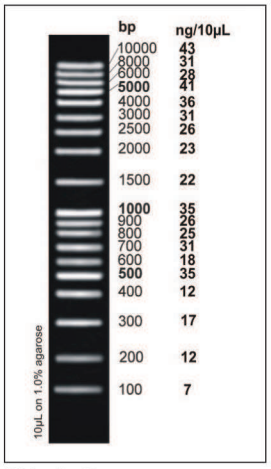
Fisher BioReagents* *ex*ACTG*ene** 1kb Plus DNA Ladder

Ready-to-use DNA size standards are stable at room temperature—no need to thaw and refreeze

- 100-10,000 bp range
- **Number of Bands:** 19
- Higher intensity reference band at 500, 1000 and 5000 bp
- Ideal for wide range size assessment and quantitative determination of DNA mass
- Contain loading dye to reduce pipetting steps and save time
- Provided in sufficient quantity to load 100 lanes

APPLICATIONS: General Purpose, Wide DNA Size Range

INCLUDES: 1mL of premixed ladder (0.5µg/10µL) in loading dye (10mM EDTA, 10% glycerol, 0.015% bromophenol blue, 0.17% SDS).



BP2579-100

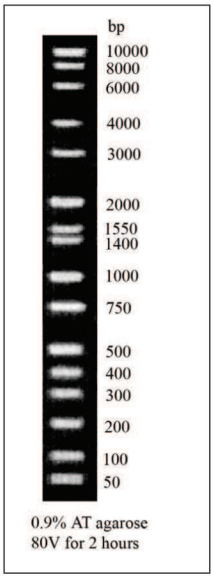
STORAGE CONDITIONS: Stable at room temperature for two years.

Quantity	Packaging	Cat. No.	MFR No.
1000µL	Poly Micro Tube	**1049-9883**	BP2579-100

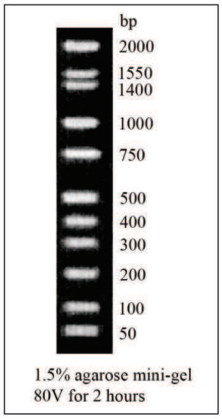
Fisher BioReagents* Routine DNA Ladders

Ready-to-use DNA size standards are room-temperature stable for up to two years

- Both ladders include a landmark doublet at 1400 and 1550 bp



BP2582-200



BP2581-200

Marker (Base Pair Range)	No. of Bands	Application	Size	Cat. No.	MFR No.
100 bp Low Scale DNA Ladder (50 to 2000 bp)	11	PCR Size Confirmation	1000µL (200 loadings)	**1028-4633**	BP2581-200
1kb Full Scale DNA Ladder (50 to 10,000 bp)	16	General Purpose, Wide DNA Size Range	1000µL (200 loadings)	**1045-0464**	BP2582-200

250 Base-Pair Ladder

packaging		Mfr. No
200 µg	PolyMicroTube	**BP2552-100**

Applications: For precise sizing of double-stranded DNA fragments from 250-2000 bp on agarose gels.
Supplied at 1µg/µℓ in TE buffer (pH 7.5).
Consists of multiple repeats of a 250 bp fragment.
Not designed for quantifying DNA content in a sample.
Recommended Gel: 1% agarose with loading amount of 2.0µg/lane.
Do not heat before loading.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

50 Base-Pair Ladder

packaging		Mfr. No
200 µg	PolyMicroTube	**BP2550-100**

Applications: For precise sizing of average-sized PCR products and other DNAs from 50-500 bp on agarose gels.
Supplied at 1µg/µℓ in TE buffer (pH 7.5).
Consists of multiple repeats of a 50 bp fragment.
Can be visualized by ethidium bromide staining or by autoradiography (after radiolabeling).
Recommended Gel: 2% agarose/ 6% polyacrylamide with loading amount of 2.0µg/lane.
Do not heat before loading.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Kilobase DNA Marker

packaging		Mfr. No
50 µg	PolyMicroTube	**BP2553-100**

Applications: For quick and precise sizing of double-stranded DNA fragments from 500 bp to 10.0kb on agarose gels.
Supplied at 0.5µg/µℓ in TE buffer (pH 8.0).
Consists of 11 easily identifiable bands - 0.5, 1.0, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, and 10.0kb - when run on a 0.8% agarose gel.
Not designed for quantifying DNA content in a sample.
Recommended Gel: 0.8% agarose with loading amount of 0.5µg/lane.
Do not heat before loading.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

DNA-Hind III Digest

packaging		Mfr. No
100 µg	PolyMicroTube	**BP2556-200**

Applications: For sizing DNA fragments from 125 to 23.130 bp on agarose gels.
Recommended Gel: 1% agarose with loading amount of 0.5µg/lane.
Contains lambda DNA that has been digested with restriction enzyme.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

DNA-Hind III/phi X-174 RF DNA-Hae III Digest

packaging		Mfr. No
25 µg	PolyMicroTube	**BP2555-25**

Applications: For sizing DNA fragments from 72 to 23.130 bp on agarose gels.
Contains a combination of lambda DNA and phi X-174 RF DNA that has been digested with restriction enzyme.
Recommended Gel: 1% agarose with loading amount of 0.5-1.0µg/lane.
Heat before loading at 60°-65°C for 2 minutes.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

DNA-Hind III/phi X-174 RF DNA-Hae III Digest
Lyophilized Powder

packaging		Mfr. No
25 µg	PolyMicroTube	**BP2554-25**

Applications: For sizing DNA fragments from 72 to 23.130 bp on agarose gels.
Contains a combination of lambda DNA and phi X-174 RF DNA that has been digested with restriction enzyme.
Recommended Gel: 1% agarose with loading amount of 0.5-1.0µg/lane.
Heat before loading at 60°-65°C for 2 minutes.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Ø X-174 RF DNA-Hae III Digest

packaging		Mfr. No
10 µg	PolyMicroTube	**BP2558-10**
100 µg	PolyMicroTube	**BP2558-100**

Applications: For sizing DNA fragments from 72 to 1.353 bp on agarose gels.
Recommended Gel: 1% agarose with loading amount of 0.5µg/lane.
Do not heat before loading.
Contains phi X-174 RF DNA that has been digested with restriction enzyme.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Collagenase From Clostridium histolyticum — Islet Isolation Grade
Yellowish Brown Lyophilized Powder

packaging		Mfr. No
1 g	AmberGlass	**BP2649-1**

CAS: 9001-12-1

Activity ..... >=3.500units/g

Applications: Collagenase is most suitable for pancreatic islet isolation.
Unit Definition: One unit will liberate peptides from collagen equivalent in ninhydrin color to 3.0µmole of L-leucine in 18 hr. at pH 7.4 and 37°C.
Inhibitors:Hg^{2+}, Pb^{2+}, Cd^{2+}, Cu^{2+}, Zn^{2+}, EDTA, o-phenanthroline.
Recommended Storage: 0° to 5°C, desiccate

Cytosine-β-D-Arabinofuranoside Hydrochloride
White Powder

packaging		Mfr. No
100 mg	AmberGlass	**BP2512-100**
500 mg	AmberGlass	**BP2512-500**
5 g	AmberGlass	**BP2512-5**
10 g	AmberGlass	**BP2512-10**

$C_9H_{13}N_3O_5$.HCl
CAS: 69-74-9
MW: 279.67

H317, H319, H361d
P280, P281,
P305+P351+P338

FTIR ..... Conforms to standard
Melting Point ..... 185°-195°C
Optical Rotation α $^{25}_{D}$ ..... +130° ± 5° (c=1, water)
Tested for ..... RNase activity, protease activity, and specific performance tests.
UV/VIS: lambda max (H_2O) ..... 280 ± 6nm

Applications: Cytosine-β-D-Arabinofuranoside Hydrochloride inhibits incorporation of labeled thymidine into DNA.
Recommended Storage: 4°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Lysozyme, Egg White
White Crystalline Powder

packaging		Mfr. No
1 g	AmberGlass	**BP535-1**
5 g	AmberGlass	**BP535-5**
10 g	AmberGlass	**BP535-10**
25 g	AmberGlass	**BP535-25**
100 g	AmberGlass	**BP535-100**

CAS: 12650-88-3
EINECS: 235-747-3

Activity ..... Approx. 20.000 units/mg protein
Salmonella ..... None detected
Solubility ..... Pass test
Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: This enzyme is used to lyse E. coli for preparation of plasmid DNA from transformed cell cultures.
Recommended Storage: <0° C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.
UN 1198

OPTIZYME™ Alkaline Phosphatase
Source: Recombinant E. Coli Strain

packaging	Mfr. No
1000 units Poly Tube	**BP8097-1**
3000 units Poly Tube	**BP8097-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Dephosphorylation of cloning vector DNA to prevent recircularization during ligation; PCR product clean-up: nucleotide degradation prior to sequencing of PCR product; Dephosphorylation of nucleic acid 5'-termini prior to labeling with T4 Polynucleotide Kinase; Other applications where dephosphorylation of DNA and RNA substrates is necessary; Protein dephosphorylation.
Description: OPTIZYME™ Alkaline Phosphatase catalyzes the release of 5'- and 3'- phosphate groups from DNA, RNA and both ribo- and deoxyribonucleoside triphosphates. OPTIZYME Alkaline Phosphatase also removes phosphate groups from proteins.
Supplied With: 10X OPTIZYME™ AP Buffer (100mM Tris-HCl (pH 8.0 at 37°C), 50mM MgCl2, 1M KCl, 0.2% (v/v) Triton X-100, 1 mg/mℓ BSA)
Concentration: 1 u/µℓ
Storage Buffer Components: 20 mM HEPES-NaOH (pH 7.4), 1 mM MgCl2, 0.1 mM ZnCl2, 0.1% (v/v) Triton X-100 and 50% (v/v) glycerol.
Unit Definition: One unit is the amount of the enzyme required to dephosphorylate 5'-termini of 1 µg of linearized pUC57 DNA in 10 min at 37°C in OPTIZYME AP Buffer.
Tested for: Endo-, exodeoxyribonuclease and ribonuclease-free; Functionally tested for dephosphorylation of 5'-termini of overhanging, recessed and blunt DNA.
Recommended storage: -20°C

OPTIZYME DNA Polymerase I
Source: Recombinant E. Coli Strain

packaging		Mfr. No
500 units	Poly Tube	**BP8109-1**
2500 units	Poly Tube	**BP8109-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: DNA labeling by nick-translation in conjunction with DNase I; Second-strand cDNA synthesis in conjunction with RNase H; Filling-in of 5'-overhangs
Description: OPTIZYME™ DNA Polymerase I, a template-dependent DNA polymerase, catalyzes 5'>3' synthesis of DNA. The enzyme also exhibits 3'>5' exonuclease (proofreading) activity, 5'>3' exonuclease activity and ribonuclease H activity.
Supplied With: 10X OPTIZYME™ DNA Pol I Buffer (500mM Tris-HCl (pH 7.5 at 25°C), 100mM MgCl2, 10mM DTT).
Concentration: 10u/µℓ
Storage Buffer Components: 25 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 1 mM DTT and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme catalyzes the incorporation of 10 nmol of deoxyribonucleotides into a polynucleotide fraction (adsorbed on DE-81) in 30 min at 37°C, using poly(dA-dT)·poly(dA-dT) as a template·primer. Enzyme activity is assayed in the following mixture: 67 mM potassium phosphate (pH 7.4), 6.7 mM MgCl2, 1 mM 2-mercaptoethanol, 0.033 mM dATP, 0.033 mM dTTP, 0.4 MBq/mℓ -dTTP and 62.5 µg/mℓ poly(dA-dT) poly(dA-dT).
Tested for: Endodeoxyribonuclease-free
Recommended storage: -20°C

OPTIZYME™ DNase I, RNase-Free
Source: Recombinant E. Coli Strain

packaging	Mfr. No
1000 units Poly Tube	**BP8107-1**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Preparation of DNA-free RNA; Removal of template DNA following in vitro transcription; Preparation of DNA-free RNA prior to RT-PCR and RT-qPCR; DNA labeling by nick-translation in conjunction with DNA Polymerase I; Studies of DNA-protein interactions by DNase footprinting.
Description: OPTIZYME™ DNase I, RNase-Free is an endonuclease that digests single- and double-stranded DNA. It hydrolyzes phosphodiester bonds producing mono- and oligodeoxyribonucleotides with phosphate and OH groups. The enzyme activity is strictly dependent on Ca2+ and is activated by Mg2+ or Mn2+ ions: (1) In the presence of Mg2+, DNase I cleaves each strand of dsDNA independently, in a statistically random fashion; (2) In the presence of Mn2+, the enzyme cleaves both DNA strands at approximately the same site, producing DNA fragments with blunt ends or with one or two nucleotide overhangs.
Supplied With: 10X OPTIZYME™ DNase I Buffer (100mM Tris-HCl (pH 7.5 at 25°C), 25mM MgCl2, 1mM CaCl2); 50mM OPTIZYME™ EDTA
Concentration: 1u/µℓ
Storage Buffer Components: 50 mM Tris-HCl (pH 7.5), 10 mM CaCl2 and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme completely degrades 1 µg of plasmid DNA in 10 min at 37°C. Enzyme activity is assayed in the following mixture: 10 mM Tris-HCl (pH 7.5 at 25°C), 2.5 mM MgCl2, 0.1 mM CaCl2, 1 µg of pUC19 DNA. One DNase I, RNase-Free unit is equivalent to 0.3 Kunitz unit.
Tested for: Ribonuclease-free; Functionally tested for the digestion of template DNA after in vitro transcription.
Recommended storage: -20°C

OPTIZYME Exonuclease III
Source: Recombinant E. Coli Strain

packaging	Mfr. No
4000 units Poly Tube	**BP8108-1**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Creation of unidirectional deletions in DNA fragments in conjunction with S1 Nuclease; Generation of a single-stranded template for dideoxy sequencing of DNA; Site-directed mutagenesis; Cloning of PCR products; Preparation of strand-specific probes.
Description: OPTIZYME™ Exonuclease III exhibits four different catalytic activities: (1) 3'>5' exodeoxyribonuclease activity specific for double-stranded DNA. Exo III degrades dsDNA from blunt ends, 5'-overhangs or nicks, releasing 5'-mononucleotides from the 3'-ends of DNA strands and producing stretches of single stranded DNA. It is not active on 3'-overhang ends of DNA that are at least four bases long and do not carry a 3'-terminal C-residue (on single-stranded DNA, or on phosphorothioate-linked nucleotides); (2) 3'-phosphatase activity: Exo III removes the 3'-terminal phosphate and generates a 3'-OH group; (3) RNase H activity: Exo III exonucleolytically degrades the RNA strand in DNA-RNA hybrids; (4) Apurinic/apyrimidinic-endonuclease activity: Exo III cleaves phosphodiester bonds at apurinic or apyrimidinic sites to produce 5'-termini that are base free deoxyribose 5'-phosphate residues.
Supplied With: 10X OPTIZYME™ ExoIII Buffer (660mM Tris-HCl (pH 8.0 at 30°C), 6.6 mM MgCl2).
Concentration: 200u/µℓ
Storage Buffer Components: 50 mM Tris-HCl (pH 8.0), 50 mM KCl, 1 mM DTT and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme catalyzes the release of 1 nmol of acid soluble reaction products from E.coli -DNA in 30 min at 37°C. Enzyme activity is assayed in the following mixture: 50 mM Tris-HCl (pH 8.0), 5 mM MgCl2, 1 mM DTT and 0.05 mM sonicated E.coli -DNA.
Tested for: Endodeoxyribonuclease-free; Functionally tested for the creation of unidirectional deletions in DNA fragments.
Recommended storage: -20°C

OPTIZYME™ Klenow Fragment
Source: Recombinant E. Coli Strain

packaging	Mfr. No
300 units Poly Tube	**BP8106-1**
1500 units Poly Tube	**BP8106-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: DNA blunting by fill-in of 5'-overhangs; Random-primed DNA labeling; Labeling by fill-in 5'-overhangs of dsDNA; DNA sequencing by the Sanger method; Site-specific mutagenesis of DNA with synthetic oligonucleotides; Second strand synthesis of cDNA.
Description: OPTIZYME™ Klenow Fragment is the large fragment of DNA Polymerase I (E.coli). It exhibits 5'>3' polymerase activity and 3'> 5' exonuclease (proofreading) activity, but lacks the 5'> 3' exonuclease activity of DNA Polymerase I.
Supplied With: 10X OPTIZYME™ Klenow Fragment Buffer (500mM Tris-HCl (pH 8.0 at 25°C), 50mM MgCl2, 10mM DTT).
Concentration: 10u/µℓ
Storage Buffer Components: 25 mM Tris-HCl (pH 7.5), 0.1 mM EDTA, 1 mM DTT and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme catalyzes the incorporation of 10 nmol of deoxyribonucleotides into a polynucleotide fraction (adsorbed on DE-81) in 30 min at 37°C. Enzyme activity is assayed in the following mixture: 50 mM Tris-HCl (pH 8.0 at 25°C), 5 mM MgCl2, 1 mM DTT, 0.033 mM dNTP, 0.4 M Bq/mℓ -dTTP and 62.5 µg/mℓ activated salmon milt DNA.
Tested for: Endodeoxyribonuclease-free; Functionally tested for fill in of 5'-overhanging DNA termini and for random primed DNA labeling
Recommended storage: -20°C

OPTIZYME™ M-MLV Reverse Transcriptase
Source: Recombinant E. Coli Strain

packaging	Mfr. No
5000 units Poly Tube	**BP8104-1**
25000 units Poly Tube	**BP8104-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: First strand cDNA synthesis for RT-PCR and real-time RT-PCR; Synthesis of cDNA for cloning and expression; Generation of labeled cDNA probes for microarrays; DNA labeling; Analysis of RNA by primer extension.
Description: OPTIZYME™ M-MLV Reverse Transcriptase possesses RNA-dependent and DNA-dependent polymerase activity and RNase H activity specific to RNA in RNA-DNA hybrids, which is significantly lower than that of Avian Myeloblastis Virus (AMV) reverse transcriptase. M-MLV RT activity is optimal at 42°C (active up to 50°C). The enzyme is capable of both first strand cDNA synthesis (<=13 kb) and incorporation of modified nucleotides.
Supplied With: 5X OPTIZYME™ M-MLV RT Buffer (250mM Tris-HCl (pH 8.3 at 25°C), 250mM KCl, 20mM MgCl2, 50mM DTT).
Concentration: 200 u/µℓ
Storage Buffer Components: 50 mM Tris-HCl (pH 7.5), 0.1 M NaCl, 1 mM EDTA, 5 mM DTT, 0.1% (v/v) Triton X-100 and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme incorporates 1 nmol of dTMP into a polynucleotide fraction (adsorbed on DE-81) in 10 min at 37°C. Enzyme activity is assayed in the following mixture: 50 mM Tris-HCl (pH 8.3), 4 mM MgCl2, 10 mM DTT, 50 mM KCl, 0.5 mM dTTP, 0.4 MBq/mℓ -dTTP, 0.4 mM polyA·oligo (dT)12-18.
Tested for: Endo-, exodeoxyribonuclease, phosphatase and ribonuclease-free; Functionally tested in first strand cDNA and RT-PCR.
Recommended storage: -20°C

rDNase I (RNase-free) OPTIZYME™

Source: Recombinant E. Coli Stain

packaging	Mfr. No
1000 units PolyTube	**BP3226-1**
2000 units PolyTube	**BP3226-2**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Robust ability to remove genomic and template DNA from RNA preparations; meets or exceeds the performance of native bovine DNase I. Developed by recombinant methods; non-animal source (yeast) eliminates potential RNase contamination-safest choice to address environmental concerns.
Certified RNase free. Highly purified for excellent lot-to-lot consistency and optimal performance. Can even be used in
the characterization of DNA:Protein interactions.
Ideal for use in RT-PCR, cDNA synthesis, and in vitro RNA transcription.
Description: Recombinant DNase I (rDNase I) efficiently hydrolyzes phosphodiester linkages of double- or single-stranded DNA. Requires magnesium and calcium for maximum activity.
Concentration: 2 units/µℓ
Storage Buffer Components: 20mM HEPES (pH 7.5), 10mM CaCl2, 10mM MgCl2, 1mM DTT, 50% (v/v) Glycerol.
Provided with 10X Reaction Buffer: 100mM Tris-HCl (pH 7.5), 25mM MgCl2, 5mM CaCl2.
Unit Definition: One unit is defined as the amount of enzyme required to completely degrade 1µg DNA in 10 minutes at 37°C.
Recommended Storage: -20°C

OPTIZYME™ recombinant DNase I 10X Reaction Buffer

packaging	Mfr. No
1 mℓ PolyTube	**BP3227-1**

Applications: Provides optimal pH and ionic conditions for use with Optizyme rDNase I.
10X Reaction Buffer Components:100mM Tris-HCl (pH 7.5), 25mM MgCl2, 5mM CaCl2.
Recommended Storage: -20°C

Ribonuclease Inhibitor OPTIZYME ™

Source: Recombinant

packaging	Mfr. No
2500 units PolyTube	**BP3222-1**
10000 units PolyTube	**BP3222-5**

Tested for DNase and Nickase contamination, absence of RNase activity, and specific performance tests

Applications: Recombinant Ribonuclease Inhibitor displays a broad spectrum of inhibitory activity against RNases, and does not have activity against other polymerases and reverse transcriptases. Suitable for use in common molecular biology applications such as isolation and purification of RNA, cDNA synthesis, RT-PCR, in vitro RNA transcription/translation, ribonuclease protection assay, and preparation of RNase-free antibodies.
Description: Supplied as a recombinant product from E. coli (originally isolated from rat lung) and provides superior protection of RNA from degradation by RNases. This RNase inhibitor is commonly added to all solutions used during the isolation of RNA, and will not interfere with the performance of most enzymes in downstream applications. Active over a broad temperature range, and even provides some RNase inhibition at 60°C which is useful when performing reverse transcription reactions at elevated temperatures to overcome secondary structure in RNA.
Storage Buffer Components: 20mM HEPES-KOH (pH 7.6 at 4°C), 50 mM KCl, 8 mM DTT, and 50% glycerol (v/v).
Note: Inactivates RNase A, RNase B, and RNase T2. No activity against SP6, T7, or T3 RNA polymerases, AMV or MMLV reverse transcriptases, and Taq DNA polymerase.
Unit Activity: Defined as the amount of inhibitor required to inhibit 50% of the activity of 5ng of RNase A.
Recommended Storage: -20°C

OPTIZYME™ SP6 RNA Polymerase

Source: Recombinant E. Coli Strain

packaging	Mfr. No
2000 units Poly Tube	**BP8100-1**
10000 units Poly Tube	**BP8100-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Synthesis of unlabeled & labeled RNA that can be used: (1) for hybridization and for in vitro RNA translation, (2) as RNA or siRNA, (3) as a substrate in RNase protection assays or as template for genomic DNA sequencing and (4) in studies of RNA secondary structure and RNA-protein interactions.
Description: OPTIZYME™ SP6 RNA Polymerase is a DNA-dependent RNA polymerase with strict specificity for its respective double-stranded promoter. The enzyme catalyzes the 5'->3' synthesis of RNA on either single-stranded DNA or double-stranded DNA downstream from the SP6 promoter. SP6 RNA Polymerase accepts modified nucleotides (e.g., biotin-, digoxigenin-, fluorescein-labeled nucleotides) as substrates for RNA synthesis.
Supplied With: 5X OPTIZYME™ Transcription Buffer (200mM Tris-HCl (pH 7.9 at 25°C), 30mM MgCl2, 50mM DTT, 50mM NaCl, 10mM spermidine).
Concentration: 20u/µℓ
Storage Buffer Components: 50 mM Tris-HCl (pH 8.0), 150 mM NaCl, 5 mM DTT, 0.1 mg/mℓ BSA, 0.03% (v/v) ELUGENT Detergent and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme incorporates 1 nmol of AMP into a polynucleotide fraction (adsorbed on DE-81) in 60 minutes at 37°C. Enzyme activity is assayed in the following mixture: 40 mM Tris-HCl (pH 8.0), 6 mM MgCl2, 10 mM DTT,2 mM spermidine, 0.5 mM of each NTP, 0.6 MBq/mℓ -ATP, 20 µg/mℓ plasmid DNA containing the SP6 promoter sequences.
Tested for: Endo-, exodeoxyribonuclease and ribonuclease-free; Functionally tested in in vitro transcription reaction.
Recommended storage: -20°C

OPTIZYME™ T3 RNA Polymerase
Source: Recombinant E. Coli Strain

packaging	Mfr. No
1000 units Poly Tube	**BP8101-1**
5000 units Poly Tube	**BP8101-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Synthesis of unlabeled & labeled RNA that can be used: (1) for hybridization and for in vitro RNA translation, (2) as RNA or siRNA, (3) as a substrate in RNase protection assays or as template for genomic DNA sequencing and (4) in studies of RNA secondary structure and RNA-protein interactions.
Description: OPTIZYME™ T3 RNA Polymerase is a DNA-dependent RNA polymerase with strict specificity for its respective double-stranded promoter. The enzyme catalyzes the 5'->3' synthesis of RNA on either single-stranded DNA or double-stranded DNA downstream from the T3 promoter. Bacteriophage T3 RNA Polymerase accepts modified nucleotides (e.g. biotin-, digoxigenin-, fluorescein-labeled nucleotides) as substrates for RNA synthesis.
Supplied With: 5X OPTIZYME™ Transcription Buffer (200mM Tris-HCl (pH 7.9 at 25°C), 30mM MgCl2, 50mM DTT, 50mM NaCl, 10mM spermidine).
Concentration: 20u/µℓ
Storage Buffer Components: 50 mM Tris-HCl (pH 8.0), 150 mM NaCl, 5 mM DTT, 0.1 mg/mℓ BSA, 0.03% (v/v) ELUGENT Detergent and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme incorporates 1 nmol of AMP into a polynucleotide fraction (adsorbed on DE-81) in 60 minutes at 37°C. Enzyme activity is assayed in the following mixture: 40 mM Tris-HCl (pH 8.0), 6 mM MgCl2, 10 mM DTT, 2 mM spermidine, 0.5 mM of each NTP, 0.6 MBq/mℓ -ATP, 20 µg/mℓ plasmid DNA containing the T3 promoter sequence.
Tested for: Endo-, exodeoxyribonuclease and ribonuclease-free; Functionally tested in in vitro transcription reaction.
Recommended storage: -20°C

OPTIZYME™ T4 DNA Polymerase
Source: Recombinant E. Coli Strain

packaging	Mfr. No
100 units Poly Tube	**BP8105-1**
500 units Poly Tube	**BP8105-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Blunting of DNA ends: fill-in 5'-overhangs and/or removal of 3'-overhangs; Blunting of PCR products with 3'-dA overhangs; Synthesis of labeled DNA probes by the replacement reaction; Oligonucleotide-directed site-specific mutagenesis; Ligation-independent cloning of PCR products.
Description: OPTIZYME™ T4 DNA Polymerase is a template -dependent DNA polymerase which catalyzes 5'->3' synthesis from primed single-stranded DNA. The enzyme possesses 3'->5' exonuclease activity, but lacks 5'->3' exonuclease activity.
Supplied With: 5X OPTIZYME™ T4 DNA Pol Buffer (335mM Tris-HCl (pH 8.8 at 25°C), 33mM MgCl2, 5mM DTT, 84mM (NH4)2SO4)
Concentration: 5 u/µℓ
Storage Buffer Components: 20 mM potassium phosphate (pH 7.5), 200 mM KCl, 2 mM DTT and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme catalyzes the incorporation of 10 nmol of deoxyribonucleotides into a polynucleotide fraction (adsorbed on DE-81) in 30 min at 37°C. Enzyme activity is assayed in the following mixture: 67 mM Tris-HCl (pH 8.8), 6.7 mM MgCl2, 1 mM DTT, 16.7 mM (NH4)2SO4, 0.2 mg/mℓ BSA, 0.033 mM of each dNTP, 0.4 MBq/mℓ -dTTP and 0.2 mM heat-denatured and nuclease-digested calf thymus DNA.
Tested for: Endodeoxyribonuclease-free
Recommended storage: -20°C

OPTIZYME™ T4 DNA Ligase
Source: Recombinant E. Coli Strain

packaging	Mfr. No
100 units Poly Tube	**BP8099-1**
1500 units Poly Tube	**BP8099-15**
500 units Poly Tube	**BP8099-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Molecular cloning; Joining of double-stranded oligonucleotide linkers or adaptors to DNA; Site-directed mutagenesis; Amplified fragment length polymorphism (AFLP); Ligase-mediated RNA detection; Nick repair in duplex DNA, RNA or DNA/RNA hybrids.
Description: OPTIZYME™ T4 DNA Ligase catalyzes the formation of a phosphodiester bond between juxtaposed 5'-phosphate and 3'-hydroxyl termini in duplex DNA or RNA. The enzyme repairs single-strand nicks in duplex DNA, RNA or DNA/RNA hybrids and joins DNA fragments with either cohesive or blunt termini. The T4 DNA Ligase requires ATP as a cofactor.
Supplied With: 10X OPTIZYME™ T4 DNA Ligase Buffer (400mM Tris-HCl, 100mM MgCl2, 100mM DTT, 5mM ATP (pH 7.8 at 25°C); 50% OPTIZYME™ PEG 4000 Solution (50% (w/v) polyethylene glycol).
Concentration: 5u/µℓ
Storage Buffer Components: 20 mM Tris-HCl (pH 7.5), 50 mM KCl, 1 mM DTT, 0.1 mM EDTA and 50% (v/v) glycerol.
Unit Definition: One Weiss unit of the enzyme catalyzes the conversion of 1 nmol of into Norit-adsorbable form in 20 min at 37°C. One Weiss unit is equivalent to approximately 200 cohesive end ligation units (CEU)*. Enzyme activity is assayed in the following mixture: 66 mM Tris-HCl (pH 7.6), 6.6 mM MgCl2, 0.066 mM ATP, 10 mM DTT, 3.3 µM . (*One CEU is defined as the amount of enzyme required to give 50% ligation of HindIII fragments of lambda DNA in 30 min at 16°C).
Tested for: Endo-, exodeoxyribonuclease, phosphatase and ribonuclease-free; Functionally tested for ligation of cohesive and blunt end DNA fragments.
Recommended storage: -20°C

OPTIZYME™ T4 Polynucleotide Kinase
Source: Recombinant E. Coli Strain

packaging	Mfr. No
500 units Poly Tube	**BP8098-1**
2500 units Poly Tube	**BP8098-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Labeling 5'-termini of nucleic acids to be used as: probes for hybridization, probes for transcript mapping markers for gel-electrophoresis primers for DNA sequencing, and primers for PCR; 5'-phosphorylation of oligonucleotides, PCR products, and other DNA or RNA prior to ligation; Phosphorylation of PCR primers; Detection of DNA modification by the post-labeling assay; Removal of 3'-phosphate groups.
Description: OPTIZYME™ T4 PNK catalyzes the transfer of the Upsilon gamma-phosphate from ATP to the 5'-OH group of single- and double-stranded DNAs and RNAs, oligonucleotides or nucleoside 3'-monophosphates (forward reaction). The reaction is reversible. In the presence of ADP, T4 PNK exhibits 5'-phosphatase activity and catalyzes the exchange of phosphate groups between 5'-P-oligo-/polynucleotides and ATP (exchange reaction). The enzyme is also a 3'-phosphatase.
Supplied With: 10X OPTIZYME T4 PNK Buffer 1 (500 mM Tris-HCl (pH 7.6 at 25°C), 100 mM MgCl2, 50 mM DTT, 1 mM spermidine); 10X OPTIZYME T4 PNK Buffer 2 (2500 mM imidazole-HCl (pH 6.4 at 25°C), 180 mM MgCl2, 50 mM DTT, 1 mM spermidine and 1 mM ADP); 24% PEG 6000 Sol for T4 PNK (24% (w/v) polyethylene glycol 6000)
Concentration: 10 u/µℓ
Storage Buffer Components: 20 mM Tris-HCl (pH 7.5), 25 mM KCl, 0.1 mM EDTA, 2 mM DTT and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme transfers 1 nmol of g-phosphate from ATP to 5'-OH DNA in 30 min at 37°C. Enzyme activity is assayed in the following mixture: 100 mM Tris-HCl (pH 8.0), 10 mM MgCl2, 5 mM DTT, 0.5 mM 5'-OH DNA, 0.05 mM ATP and 0.1 MBq/mℓ [g -33P]-ATP.
Tested for: Endo-, exodeoxyribonuclease and ribonuclease-free; Functionally tested for labeling of 5'-termini of DNA.
Recommended storage: -20°C

OPTIZYME™ T7 RNA Polymerase
Source: Recombinant E. Coli Strain

packaging	Mfr. No
5000 units Poly Tube	**BP8102-1**
25000 units Poly Tube	**BP8102-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Synthesis of unlabeled & labeled RNA that can be used: (1) for hybridization and for in vitro RNA translation, (2) as RNA or siRNA, (3) as a substrate in RNase protection assays or as template for genomic DNA sequencing and (4) in studies of RNA secondary structure and RNA-protein interactions.
Description: OPTIZYME™ T7 RNA Polymerase is a DNA dependent RNA polymerase with strict specificity for its respective double-stranded promoter. The enzyme catalyzes the 5 -> 3' synthesis of RNA on either single-stranded DNA or double-stranded DNA downstream from the T7 promoter. Bacteriophage T7 RNA Polymerase accepts modified nucleotides (e.g., biotin-, digoxigenin-, fluorescein-labeled nucleotides) as substrates for RNA synthesis.
Supplied With: 5X OPTIZYME™ Transcription Buffer (200mM Tris-HCl (pH 7.9 at 25°C), 30mM MgCl2, 50mM DTT, 50mM NaCl, 10mM spermidine).
Concentration: 20 u/µℓ
Storage Buffer Components: 50 mM Tris-HCl (pH 8.0), 150 mM NaCl, 5 mM DTT, 0.1 mg/mℓ BSA, 0.03% (v/v) ELUGENT Detergent and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme incorporates 1 nmol of AMP into a polynucleotide fraction (adsorbed on DE-81) in 60 minutes at 37°C. Enzyme activity is assayed in the following mixture: 40 mM Tris-HCl (pH 8.0), 6 mM MgCl2, 10 mM DTT, 2 mM spermidine, 0.5 mM of each NTP, 0.6 MBq/mℓ -ATP, 20 µg/mℓ plasmid DNA containing the T7 promoter sequence.
Recommended storage: -20°C

Ribonuclease H

packaging	Mfr. No
50 units PolyTube	**BP3215-1**

CAS: 9050-76-4
H315, H319, H335
P280, P305+P351+P338

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Ribonuclease H is used in removal of the RNA strand prior to second strand cDNA synthesis and analysis of in vitro polyadenylation reaction products.
Description: Ribonuclease H (RNase H) from E. coli is an endoribonuclease that specifically hydrolyzes the phosphodiester bonds of RNA hybridized to DNA to produce 3'-OH and 5'-P terminated products. It will not degrade single-stranded nucleic acids, duplex DNA or double-stranded RNA.
Concentration: 0.5-2u/µℓ
Storage Buffer Components: 20mm HEPES-KOH (pH 7.8), 1mM DTT, 50mM KCl and 50% (v/v) glycerol, and 0.2mg/mℓ BSA.
Unit Definition: One unit is defined as the amount of enzyme required to produce 1nmol acid-soluble ribonucleotides from radiolabeled poly(rA):poly(dT) in 20 minutes at 37°C in 20mM HEPES-KOH (pH 7.8), 50mM KCl, 10mM MgCl2, 1mM DTT, 20µM radiolabeled poly(rA):poly(dT).
Recommended Storage: -20°C

OPTIZYME™ Terminal Deoxynucleotidyl Transferase
Source: Recombinant E. Coli Strain

packaging	Mfr. No
300 units Poly Tube	**BP8103-1**
1500 units Poly Tube	**BP8103-5**

Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: Production of synthetic homo- and heteropolymers; Homopolymeric tailing of linear duplex DNA with any type of 3'-OH terminus; Oligodeoxyribonucleotide and DNA labeling; 5'-RACE (Rapid Amplification of cDNA Ends); In situ localization of apoptosis.
Description: OPTIZYME™ TdT, a template-independent DNA polymerase, catalyzes the repetitive addition of deoxyribonucleotides to the 3'-OH of oligodeoxyribonucleotides and single-stranded, or double-stranded DNA. TdT requires an oligonucleotide of at least three nucleotides to serve as a primer. With RNA as template, TdT shows variable performance which strongly depends upon the tertiary structure of acceptor RNA 3'-end and the nature of nucleotide. Generally, it is lower than using DNA as a template.
Supplied With: 5X OPTIZYME™ TdT Buffer (1M potassium cacodylate, 125mM Tris, 0.05% (v/v) Triton X-100, 5mM CoCl2 (pH 7.2 at 25°C))
Concentration: 20 u/µℓ
Storage Buffer Components: 100 mM potassium acetate (pH 6.8), 2 mM 2 -mercaptoethanol, 0.01% (v/v) Triton X-100 and 50% (v/v) glycerol.
Unit Definition: One unit of the enzyme catalyzes the incorporation of 1 nmol of deoxythymidylate into a polynucleotide fraction (adsorbed on DE-81) in 60 min at 37°C. Enzyme activity is assayed in the following mixture: 200 mM potassium cacodylate (pH 7.2), 1 mM CoCl2, 0.01% (v/v) Triton X 100, 10 µM oligo(dT)10, 1 mM dTTP and 0.4 MBq/mℓ -dTTP.
Tested for: Endo-, exodeoxyribonuclease, phosphatase and ribonuclease-free
Recommended storage: -20°C

OPTIZYME™ AarI
Source: E. coli

packaging	Mfr. No
125 units Poly Tube	**BP8069-1**

Buffer 1 ..... No Reaction%
Buffer 2 ..... No Reaction%
Buffer 3 ..... 0-20%
Buffer 4 ..... No Reaction%
Buffer 5 ..... 0-20%
Buffer AarI, ScaI, PasI 100%
Tested for ..... RNase activity, protease activity, and specific performance tests.

Applications: OPTIZYME™ AarI digests dsDNA with the recognition sequence indicated below.
Conditions for 100% Activity: 1X OPTIZYME Buffer AarI, ScaI, PasI: 10mM Bis-Tris Propane-HCl (pH 6.5 at 37°C), 10mM MgCl2, 100mM KCl, 0.1mg/mℓ BSA; 0.5µM of oligonucleotide; Incubate at 37°C.
Recognition Sequence: 5'...C A C C T G C (N)4 ^...3'
Supplied With: 10X OPTIZYME Buffer AarI, ScaI, PasI and 50X Oligonucleotide
Concentration: 2u/µℓ
Storage Buffer Components: 10mM potassium phosphate (pH 7.4 at 25°C), 100mM KCl, 1mM EDTA, 1mM DTT, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of AarI at which no change in the fragmentation pattern is observed with further increase of enzyme. 1 µg of lambda DNA is incubated with the enzyme for 1 hour at 37°C in 50 µℓ of recommended reaction buffer. The cleavage of DNA by AarI is never complete.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ AatII
Source: E. coli

packaging	Mfr. No
300 units Poly Tube	**BP8041-1**

Buffer 1	50-100%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ AatII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G A C G T^C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/ mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of AatII required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ AloI
Source: E. coli

packaging	Mfr. No
100 units Poly Tube	**BP8075-1**

Buffer 1	0-20%
Buffer 2	0-20%
Buffer 3	0-20%
Buffer 4	20-50%
Buffer 5	100%
Tested for	RNase activity, protease activity, and specific performance tests.

Applications: OPTIZYME™ AloI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...^ 7(N) G A A C (N)6 T C C (N)12-13^...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 30°C.
Concentration: 1-3u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of AloI required to digest 1 µg of lambda DNA in 1 hour at 30°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified
Recommended storage: -20°C

OPTIZYME™ AluI
Source: Arthrobacter luteus

packaging	Mfr. No
600 units Poly Tube	**BP8015-1**

Buffer 1	50-100%
Buffer 2	0-20%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%
Tested for	RNase activity, protease activity, and specific performance tests.

Applications: OPTIZYME™ AluI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A G^C T...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1 mM DTT, 0.1mM EDTA, 0.15% Triton X-100, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of AluI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ Alw44I
Source: Acinetobacter lwoffi RFL44

packaging	Mfr. No
1000 units Poly Tube	**BP8059-1**

Buffer 1	50-100%
Buffer 2	100%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	50-100%

Applications: OPTIZYME™ Alw44I digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^T G C A C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/ mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Alw44I required to digest 1 µg of lambda DNA-SmaI fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ ApaI
Source: E. coli

packaging	Mfr. No
5000 units Poly Tube	**BP8025-1**

Buffer 1	100%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	20-50%
Buffer 5	0-20%

Applications: OPTIZYME™ ApaI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G G G C C^C...3'
Supplied With: 10X OPTIZYME Buffer 1
Conditions for 100% Activity: 1X OPTIZYME Buffer 1: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 50mM NaCl, 1 mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of ApaI required to digest 1 µg of lambda DNA-CpoI fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ AvaI
Source: E. coli

packaging	Mfr. No
1000 units Poly Tube	**BP8035-1**

Buffer 1	100%
Buffer 2	50-100%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ AvaI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C^Y C G R G...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of AvaI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ AvaII
Source: E. coli

packaging	Mfr. No
800 units Poly Tube	**BP8043-1**

Buffer 1	0-20%
Buffer 2	50-100%
Buffer 3	50-100%
Buffer 4	50-100%
Buffer 5	100%

Applications: OPTIZYME™ AvaII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^G W C C...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of AvaII required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ BalI
Source: Micrococcus luteus Ng 16-122

packaging	Mfr. No
200 units Poly Tube	**BP8039-1**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	20-50%
Buffer 5	100%

Applications: OPTIZYME™ BalI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...T G G^C C A...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 5u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of BalI required to digest 1 µg of lambda DNA dcm- in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ BamHI
Source: E. coli

packaging	Mfr. No
12500 units Poly Tube	**BP8005-5**

Buffer 1	20-50%
Buffer 2	100%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	50-100%
Buffer BamHI	100%

Applications: OPTIZYME™ BamHI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^G A T C C...3'
Supplied With: 10X OPTIZYME BamHI Buffer
Conditions for 100% Activity: 1X OPTIZYME Buffer BamHI: 10mM Tris-HCl (pH 8.0 at 37°C), 5mM MgCl2, 100mM KCl, 0.02% Triton X-100 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 200mM NaCl, 1mM DTT, 0.1mM EDTA, 0.15% Triton X-100, 0.2mg/mℓ BSA and 50% (v/v) glycerol.
Unit Definition: One unit is defined as the amount of BamHI required to digest 1 µg of lambda DNA-Bsp120I fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ BclI
Source: Bacillus caldolyticus

packaging	Mfr. No
3000 units Poly Tube	**BP8053-1**

Buffer 1	20-50%
Buffer 2	100%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ BclI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...T^G A T C A...3'
Supplied With: 10X OPTIZYME Buffer 2
Conditions for 100% Activity: 1X OPTIZYME Buffer 2: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 50mM NaCl and 0.1mg/mℓ BSA; Incubate at 55°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of BclI required to digest 1 µg of lambda DNA dam- in 1 hour at 55°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified
Recommended storage: -20°C

OPTIZYME™ BglI
Bacillus globigii

packaging	Mfr. No
2000 units Poly Tube	**BP8046-1**

Buffer 1	0-20%
Buffer 2	50-100%
Buffer 3	100%
Buffer 4	0-20%
Buffer 5	100%

Applications: OPTIZYME™ BglI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G C C N N N N^N G G C...3'
Supplied With: 10X OPTIZYME Buffer 3
Conditions for 100% Activity: 1X OPTIZYME Buffer 3: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 300mM NaCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of BglI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ BglII
Source: E. coli

packaging	Mfr. No
1000 units Poly Tube	**BP8014-1**
2500 units Poly Tube	**BP8014-5**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	100%
Buffer 4	0-20%
Buffer 5	50-100%

Applications: OPTIZYME™ BglII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A^G A T C T...3'
Supplied With: 10X OPTIZYME Buffer 3
Conditions for 100% Activity: 1X OPTIZYME Buffer 3: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 8.2 at 25°C), 200 mM KCl, 1mM DTT, 0.1mM EDTA, 0.5mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of BglII required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ BpiI
Source: Bacillus pumillus Sw 4-3

packaging	Mfr. No
1000 units Poly Tube	**BP8072-1**

Buffer 1	20-50%
Buffer 2	100%
Buffer 3	50-100%
Buffer 4	50-100%
Buffer 5	50-100%

Applications: OPTIZYME™ BpiI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G A A G A C (N)2^...3'
Supplied With: 10X OPTIZYME Buffer 2
Conditions for 100% Activity: 1X OPTIZYME Buffer 2: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 50mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of BpiI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ BshTI
Source: Bacillus sphaericus Jo 22-024

packaging	Mfr. No
1000 units Poly Tube	**BP8078-1**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	100%
Buffer 4	20-50%
Buffer 5	50-100%

Applications: OPTIZYME™ BshTI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A^C C G G T...3'
Supplied With: 10X OPTIZYME Buffer 3
Conditions for 100% Activity: 1X OPTIZYME Buffer 3: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of BshTI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ Bsh1236I
Source: Bacillus sphaericus RFL1236

packaging	Mfr. No
2500 units Poly Tube	**BP8071-1**

Buffer 1	0-20%
Buffer 2	0-20%
Buffer 3	50-100%
Buffer 4	20-50%
Buffer 5	100%

Applications: OPTIZYME™ Bsh1236I digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C G^C G...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Bsh1236I required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ BssHII
Source: Paracoccus alcaliphilus ZVK3-3

packaging	Mfr. No
200 units Poly Tube	**BP8036-1**

Buffer 1	0-20%
Buffer 2	0-20%
Buffer 3	100%
Buffer 4	0-20%
Buffer 5	100%

Applications: OPTIZYME™ BssHII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^C G C G C...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of BssHII required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ BstEII
Source: Escherichia coli RFL91

packaging	Mfr. No
2000 units Poly Tube	**BP8038-1**

Buffer 1	20-50%
Buffer 2	20-50%
Buffer 3	100%
Buffer 4	No Reaction%
Buffer 5	50-100%

Applications: OPTIZYME™ BstEII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^G T N A C C...3'
Supplied With: 10X OPTIZYME Buffer 3
Conditions for 100% Activity: 1X OPTIZYME Buffer 3: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl)2 , 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of BstEII required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ ClaI
Source: Bacillus subtilis 15

packaging	Mfr. No
600 units Poly Tube	**BP8024-1**
2500 units Poly Tube	**BP8024-5**

Buffer 1	20-50%
Buffer 2	20-50%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ ClaI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A T^C G A T...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 8.0 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.5mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of ClaI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ Cfr9I
Source: E. coli

packaging	Mfr. No
1500 units Poly Tube	**BP8081-1**

Buffer 1	0-20%
Buffer 2	0-20%
Buffer 3	0-20%
Buffer 4	20-50%
Buffer 5	0-20%
Buffer Cfr9I	100%

Applications: OPTIZYME™ Cfr9I digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C^C C G G G...3'
Supplied With: 10X OPTIZYME Cfr9I
Conditions for 100% Activity: 1X OPTIZYME Buffer Cfr9I: 10mM Tris-HCl (pH 7.2 at 37°C), 5mM MgCl2, 200mM sodium glutamate and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 250mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Cfr9I required to digest 1 µg of lambda DNA-HindIII fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer (containing 2 µg DNA fragments).
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ Csp6I
Source: Corynebacterium species RFL6

packaging	Mfr. No
1500 units Poly Tube	**BP8068-1**

Buffer 1	100%
Buffer 2	50-100%
Buffer 3	0-20%
Buffer 4	50-100%
Buffer 5	0-20%

Applications: OPTIZYME™ Csp6I digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^T A C...3'
Supplied With: 10X OPTIZYME Buffer 1
Conditions for 100% Activity: 1X OPTIZYME Buffer 1: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl)2 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Csp6I required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ DdeI
Source: E. coli

packaging	Mfr. No
500 units Poly Tube	**BP8060-1**
1000 units Poly Tube	**BP8060-5**

Buffer 1	20-50%
Buffer 2	20-50%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ DdeI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C^T N A G...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of DdeI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ DpnI
Source: E. coli

packaging	Mfr. No
500 units Poly Tube	**BP8009-1**

Buffer 1	100%
Buffer 2	100%
Buffer 3	50-100%
Buffer 4	100%
Buffer 5	50-100%

Applications: OPTIZYME™ DpnI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G m6A^T C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 400mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of DpnI required to digest 1 µg of pBR322 DNA (dam methylated) in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ DraI
Source: Deinococcus radiophilus

packaging	Mfr. No
2000 units Poly Tube	**BP8026-1**

Buffer 1	50-100%
Buffer 2	50-100%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ DraI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...T T T^A A A...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.15% Triton X-100, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of DraI required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ Ecl136II
Source: Enterobacter cloacae RFL136

packaging	Mfr. No
1500 units Poly Tube	**BP8080-1**

Buffer 1	50-100%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	50-100%
Buffer 5	0-20%
Buffer Ecl136II, SacI	100%

Applications: OPTIZYME™ Ecl136II digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G A G^C T C...3'
Supplied With: 10X OPTIZYME Ecl136II, SacI
Conditions for 100% Activity: 1X Buffer Ecl136II, SacI: 10mM Bis-Tris Propane-HCl (pH 6.5 at 37°C), 10mM MgCl2 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Ecl136II required to digest 1 µg of lambda DNA-HindIII in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ Eco57I
Source: E. coli

packaging	Mfr. No
1000 units Poly Tube	**BP8066-1**

Buffer 1	100%
Buffer 2	100%
Buffer 3	20-50%
Buffer 4	50-100%
Buffer 5	20-50%

Applications: OPTIZYME™ Eco57I digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C T G A A G (N)16^...3'
Supplied With: 10X OPTIZYME Buffer 2 and 50X S-adenosylmethionine.
Conditions for 100% Activity: 1X OPTIZYME Buffer 2: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2 , 50mM NaCl and 0.1mg/mℓ BSA; 0.01mM S-adenosylmethionine; Incubate at 37°C
Concentration: 5u/µℓ
Storage Buffer Components: 10mM potassium phosphate (pH 7.4 at 25°C), 100mM NaCl, 1mM EDTA, 1mM DTT and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Eco57I at which no change in the fragmentation pattern is observed with further increase of enzyme. 1 µg of lambda DNA is incubated with Eco57I for 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ EcoRI
Source: E. coli

packaging	Mfr. No
25000 units Poly Tube	**BP8054-1**

Buffer 1	0-20%
Buffer 2	No Reaction%
Buffer 3	100%
Buffer 4	No Reaction%
Buffer 5	100%
Buffer EcoRI	100%

Applications: OPTIZYME™ EcoRI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^A A T T C...3'
Supplied With: 10X OPTIZYME EcoRI Buffer
Conditions for 100% Activity: 1X OPTIZYME Buffer EcoRI: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 100mM NaCl, 0.02% Triton X-100 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 50u/µℓ
Storage Buffer Components: 10mM potassium phosphate (pH 7.4 at 25°C), 300mM NaCl, 1mM EDTA, 1mM DTT, 0.2mg/mℓ BSA, 0.15% Triton X-100 and 50% (v/v) glycerol.
Unit Definition: One unit is defined as the amount of EcoRI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ EcoRI
Source: E. coli

packaging	Mfr. No
15000 units Poly Tube	**BP8003-5**

Buffer 1	0-20%
Buffer 2	No Reaction%
Buffer 3	100%
Buffer 4	No Reaction%
Buffer 5	100%
Buffer EcoRI	100%

Applications: OPTIZYME™ EcoRI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^A A T T C...3'
Supplied With: 10X OPTIZYME EcoRI Buffer
Conditions for 100% Activity: 1X OPTIZYME Buffer EcoRI: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 100mM NaCl, 0.02% Triton X-100 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM potassium phosphate (pH 7.4 at 25°C), 300mM NaCl, 1mM EDTA, 1mM DTT, 0.2mg/mℓ BSA, 0.15% Triton X-100 and 50% (v/v) glycerol.
Unit Definition: One unit is defined as the amount of EcoRI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ EcoRV
Source: Escherichia coli RFL32

packaging	Mfr. No
3000 units Poly Tube	**BP8012-1**

Buffer 1	0-20%
Buffer 2	50-100%
Buffer 3	50-100%
Buffer 4	20-50%
Buffer 5	100%

Applications: OPTIZYME™ EcoRV digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G A T^A T C...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 25mM Tris-HCl (pH 7.5 at 25°C), 200mM NaCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of EcoRV required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ Esp3I
Source: E. coli

packaging	Mfr. No
1000 units Poly Tube	**BP8070-1**

Buffer 1	100%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ Esp3I digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C G T C T C (N)1^...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4 + DTT: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; 1.0mM DTT; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM potassium phosphate (pH 7.4 at 25°C), 100mM KCl, 1mM EDTA, 7mM 2-mercaptoethanol, 0.5mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Esp3I required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ HincII
Source: E. coli

packaging	Mfr. No
500 units Poly Tube	**BP8034-1**

Buffer 1	50-100%
Buffer 2	50-100%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	50-100%

Applications: OPTIZYME™ HincII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G T Y^R A C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 200mM KCl, 1mM DTT, 0.1mM EDTA, 0.5mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of HincII required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ HaeIII
Source: Bacillus subtilis R

packaging	Mfr. No
2500 units Poly Tube	**BP8002-1**
10000 units Poly Tube	**BP8002-5**

Buffer 1	0-20%
Buffer 2	0-20%
Buffer 3	0-20%
Buffer 4	50-100%
Buffer 5	100%

Applications: OPTIZYME™ HaeIII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G G^C C...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2 , 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol.
Unit Definition: One unit is defined as the amount of HaeIII required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ HindIII
Source: Haemophilus influenzae Rd

packaging	Mfr. No
15000 units Poly Tube	**BP8006-5**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	50-100%
Buffer 5	100%

Applications: OPTIZYME™ HindIII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A^A G C T T...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 250mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of HindIII required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ HinFI
Source: Haemophilus influenzae Rf

packaging	Mfr. No
2000 units Poly Tube	**BP8051-1**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	50-100%
Buffer 4	50-100%
Buffer 5	100%

Applications: OPTIZYME™ HinFI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^A N T C...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of HinfI required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ HpaII
Source: Haemophilus parainfluenzae

packaging	Mfr. No
1000 units Poly Tube	**BP8032-1**

Buffer 1	50-100%
Buffer 2	50-100%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ HpaII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C^C G G...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM NaCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of HpaII required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ HpaI
Source: Kurthia species N88

packaging	Mfr. No
500 units Poly Tube	**BP8049-1**

Buffer 1	100%
Buffer 2	50-100%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ HpaI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G T T^A A C...3'
Supplied With: 10X OPTIZYME Buffer 1
Conditions for 100% Activity: 1X OPTIZYME Buffer 1: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of HpaI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ Hpy8I
Source: E. coli

packaging	Mfr. No
1000 units Poly Tube	**BP8079-1**

Buffer 1	50-100%
Buffer 2	50-100%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ Hpy8I digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G T N^N A C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Hpy8I required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ KpnI
Source: Klebsiella pneumoniae OK8

packaging	Mfr. No
4000 units Poly Tube	**BP8083-1**

Buffer 1	20-50%
Buffer 2	0-20%
Buffer 3	0-20%
Buffer 4	20-50%
Buffer 5	0-20%
Buffer KpnI	100%

Applications: OPTIZYME™ KpnI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G G T A C^C...3'
Supplied With: 10X OPTIZYME KpnI
Conditions for 100% Activity: 1X OPTIZYME Buffer KpnI: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 0.02% Triton X-100 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of KpnI required to digest 1 µg of lambda DNA-BamHI fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ LguI
Source: Lysobacter gummosus RFL1

packaging	Mfr. No
500 units Poly Tube	**BP8067-1**

Buffer 1	20-50%
Buffer 2	50-100%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ LguI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G C T C T T C (N)1^...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 5U/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of LguI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ MluI
Source: Micrococcus luteus

packaging	Mfr. No
1000 units Poly Tube	**BP8021-1**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	50-100%
Buffer 4	20-50%
Buffer 5	100%

Applications: OPTIZYME™ MluI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A^C G C G T...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of MluI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ MspI
Source: Moraxella species

packaging	Mfr. No
3000 units Poly Tube	**BP8048-1**

Buffer 1	50-100%
Buffer 2	50-100%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ MspI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C^C G G...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM potassium phosphate (pH 7.5 at 25°C), 200mM NaCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of MspI required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ NaeI
Source: E. coli

packaging	Mfr. No
250 units Poly Tube	**BP8057-1**

Buffer 1	50-100%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ NaeI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G C C^G G C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 500mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA, 0.15% Triton X-100 and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of NaeI required to digest 1 µg of pBR322 DNA-NdeI fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ NcoI
Source: E. coli

packaging	Mfr. No
500 units Poly Tube	**BP8017-1**
2500 units Poly Tube	**BP8017-5**

Buffer 1	20-50%
Buffer 2	20-50%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	50-100%

Applications: OPTIZYME™ NcoI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C^C A T G G...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of NcoI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ NdeI
Source: E. coli

packaging	Mfr. No
1500 units Poly Tube	**BP8020-1**

Buffer 1	0-20%
Buffer 2	0-20%
Buffer 3	100%
Buffer 4	0-20%
Buffer 5	50-100%

Applications: OPTIZYME™ NdeI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C A^T A T G...3'
Supplied With: 10X OPTIZYME Buffer 3
Conditions for 100% Activity: 1X OPTIZYME Buffer 3: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of NdeI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ NheI
Source: Neisseria mucosa heidelbergensis

packaging	Mfr. No
500 units Poly Tube	**BP8019-1**

Buffer 1	100%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ NheI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^C T A G C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 8.0 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of NheI required to digest 1 µg of lambda DNA-HindIII fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ NotI
Source: Nocardia otitidis-caviarum

packaging	Mfr. No
300 units Poly Tube	**BP8004-1**
1000 units Poly Tube	**BP8004-5**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	100%
Buffer 4	0-20%
Buffer 5	20-50%

Applications: OPTIZYME™ NotI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G C^G G C C G C...3'
Supplied With: 10X OPTIZYME Buffer 3
Conditions for 100% Activity: 1X OPTIZYME Buffer 3: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2 , 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 20mM Tris-HCl (pH 7.8 at 25°C), 100mM NaCl, 0.1mM EDTA, 1mM DTT, 0.02% Triton X-100, 0.2mg/mℓ BSA and 50% (v/v) glycerol.
Unit Definition: One unit is defined as the amount of NotI required to digest 1 µg pTZ19RJL2 DNA-BseLI fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ PasI
Source: Pseudomonas anquilliseptica RFL1

packaging	Mfr. No
200 units Poly Tube	**BP8073-1**

Buffer 1	No Reaction%
Buffer 2	No Reaction%
Buffer 3	No Reaction%
Buffer 4	No Reaction%
Buffer 5	No Reaction%
Buffer AarI, ScaI, PasI	100%

Applications: OPTIZYME™ PasI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C C^C W G G G...3'
Supplied With: 10X OPTIZYME Buffer AarI, ScaI, PasI
Conditions for 100% Activity: 1X OPTIZYME Buffer AarI, ScaI, PasI: 10mM Bis-Tris Propane-HCl (pH 6.5 at 37°C), 10mM MgCl2 , 100mM KCl and 0.1mg/mℓ BSA; Incubate at 55°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of PasI required to digest 1 µg of lambda DNA-XagI fragments in 1 hour at 55°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ NsiI
Source: Moraxella phenylpyruvica RFL1103

packaging	Mfr. No
1000 units Poly Tube	**BP8058-1**

Buffer 1	0-20%
Buffer 2	50-100%
Buffer 3	20-50%
Buffer 4	50-100%
Buffer 5	100%

Applications: OPTIZYME™ NsiI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A T G C A^T...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 200mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of NsiI required to digest 1 µg lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified
Recommended storage: -20°C

OPTIZYME™ PfoI
Source: Pseudomonas fluorescens biovar 126

packaging	Mfr. No
200 units Poly Tube	**BP8077-1**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	50-100%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ PfoI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...T^C C N G G A...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of PfoI required to digest 1 µg of lambda DNA dam-, dcm- in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ PstI
Source: Providencia stuarti

packaging	Mfr. No
6000 units Poly Tube	**BP8001-1**

Buffer 1	50-100%
Buffer 2	50-100%
Buffer 3	100%
Buffer 4	50-100%
Buffer 5	100%

Applications: OPTIZYME™ PstI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C T G C A^G...3'
Supplied With: 10X OPTIZYME Buffer 3
Conditions for 100% Activity: 1X OPTIZYME Buffer 3: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2 , 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 200mM NaCl, 1mM DTT, 0.1mM EDTA, 0.15% Triton X-100, 0.2mg/mℓ BSA and 50% (v/v) glycerol.
Unit Definition: One unit is defined as the amount of PstI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ PvuII
Source: Proteus vulgaris

packaging	Mfr. No
5000 units Poly Tube	**BP8022-5**
2500 units Poly Tube	**BP8022-1**

Buffer 1	50-100%
Buffer 2	100%
Buffer 3	20-50%
Buffer 4	20-50%
Buffer 5	50-100%
Tested for	RNase activity, protease activity, and specific performance tests.

Applications: OPTIZYME™ PvuII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C A G^C T G...3'
Supplied With: 10X OPTIZYME Buffer 2
Conditions for 100% Activity: 1X OPTIZYME Buffer 2: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 50mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10U/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of PvuII required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ PvuI
Source: E. coli

packaging	Mfr. No
300 units Poly Tube	**BP8050-1**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	50-100%
Buffer 4	50-100%
Buffer 5	100%

Applications: OPTIZYME™ PvuI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C G A T^C G...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 300mM KCl, 0.1mM EDTA, 1mM DTT, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of PvuI required to digest 1 µg lambda DNA-CpoI fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ RsaI
Source: Rhodopseudomonas sphaeroides

packaging	Mfr. No
1000 units Poly Tube	**BP8000-1**

Buffer 1	50-100%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ RsaI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G T^A C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10U/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of RsaI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ SacI
Source: Streptomyces achromoqenes

packaging	Mfr. No
2000 units Poly Tube	**BP8016-1**

Buffer 1	50-100%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	50-100%
Buffer 5	0-20%

Applications: OPTIZYME™ SacI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G A G C T^C...3'
Supplied With: 10X OPTIZYME Ecl136II, SacI Buffer
Conditions for 100% Activity: 1X OPTIZYME Buffer Ecl136II, SacI: 10mM Bis-Tris Propane-HCl (pH 6.5 at 37°C), 10mM MgCl2 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1 mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of SacI required to digest 1 µg of lambda DNA-HindIIII fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ SacII
Source: E. coli

packaging	Mfr. No
1200 units Poly Tube	**BP8023-1**

Buffer 1	100%
Buffer 2	50-100%
Buffer 3	0-20%
Buffer 4	50-100%
Buffer 5	0-20%

Applications: OPTIZYME™ SacII digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C C G C^G G...3'
Supplied With: 10X OPTIZYME Buffer 1
Conditions for 100% Activity: 1X OPTIZYME Buffer 1: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM potassium phosphate (pH 7.4 at 25°C), 100mM NaCl, 1mM EDTA, 7mM 2-mercaptoethanol, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of SacII required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ SalI
Source: Streptomyces albus G

packaging	Mfr. No
2000 units Poly Tube	**BP8013-1**

Buffer 1	0-20%
Buffer 2	0-20%
Buffer 3	100%
Buffer 4	0-20%
Buffer 5	20-50%

Applications: OPTIZYME™ SalI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G^T C G A C...3'
Supplied With: 10X OPTIZYME Buffer 3
Conditions for 100% Activity: 1X OPTIZYME Buffer 3: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C),100 mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of SalI required to digest 1 µg DNA-Eco81I fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ Sau3AI
Source: Bacillus species RFL143

packaging	Mfr. No
300 units Poly Tube	**BP8030-1**

Buffer 1	20-50%
Buffer 2	20-50%
Buffer 3	0-20%
Buffer 4	50-100%
Buffer 5	0-20%

Applications: OPTIZYME™ Sau3AI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...^G A T C ...3'
Supplied With: 10X OPTIZYME Buffer Sau3AI
Conditions for 100% Activity: 1X OPTIZYME Buffer Sau3AI: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate, 0.02% Triton X-100 and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 10mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Sau3AI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ ScaI
Source: Streptomyces caespitosus

packaging	Mfr. No
1000 units Poly Tube	**BP8037-1**

Buffer 1	0-20%
Buffer 2	0-20%
Buffer 3	0-20%
Buffer 4	0-20%
Buffer 5	0-20%

Applications: OPTIZYME™ ScaI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A G T^A C T...3'
Supplied With: 10X OPTIZYME AarI, ScaI, PasI Buffer
Conditions for 100% Activity: 1X OPTIZYME Buffer AarI, ScaI, PasI: 10mM Bis-Tris Propane-HCl (pH 6.5 at 37°C), 10mM MgCl2 , 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.5mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of ScaI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ SfaAI
Source: E. coli

packaging	Mfr. No
1000 units Poly Tube	**BP8076-1**

Buffer 1	50-100%
Buffer 2	0-20%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ SfaAI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G C G A T^C G C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of SfaAI required to digest 1 µg of control DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer. The control DNA is linearized pJET1 DNA with inserted SfaAI recognition site.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ SmaI
Source: Serratia marcescens

packaging	Mfr. No
1200 units Poly Tube	**BP8011-1**
5000 units Poly Tube	**BP8011-5**

Buffer 1	50-100%
Buffer 2	0-20%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ SmaI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C C C^G G G...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol; Incubate at 30°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of SmaI required to digest 1 µg of lambda DNA-Eco81I fragments in 1 hour at 30°C in 50µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ SpeI
Source: Bacillus coagulans VS 29-022

packaging	Mfr. No
400 units Poly Tube	**BP8018-1**

Buffer 1	50-100%
Buffer 2	50-100%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ SpeI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A^C T A G T...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 300mM KCl, 1mM DTT, 0.1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of SpeI required to digest 1 µg of control DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer. The control DNA is pUC19 DNA with inserted SpeI recognition site-Psp1406I fragments.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ SphI
Source: Pseudomonas aeruginosa

packaging	Mfr. No
500 units Poly Tube	**BP8029-1**

Buffer 1	100%
Buffer 2	50-100%
Buffer 3	0-20%
Buffer 4	50-100%
Buffer 5	0-20%

Applications: OPTIZYME™ SphI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G C A T G^C...3'
Supplied With: 10X OPTIZYME Buffer 1
Conditions for 100% Activity: 1X OPTIZYME Buffer 1: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM potassium-phosphate (pH 7.0 at 25°C), 50mM KCl, 1mM DTT, 0.1mM EDTA, 0.15% Triton X-100, 0.5mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of SphI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ StuI
Source: E. coli

packaging	Mfr. No
1000 units Poly Tube	**BP8027-1**

Buffer 1	100%
Buffer 2	50-100%
Buffer 3	20-50%
Buffer 4	50-100%
Buffer 5	20-50%

Applications: OPTIZYME™ StuI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A G G^C C T...3'
Supplied With: 10X OPTIZYME Buffer 1
Conditions for 100% Activity: 1X OPTIZYME Buffer 1: 10mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2 and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of StuI required to digest 1 µg of lambda DNA-Eco81I in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ TaqI
Source: E. coli

packaging	Mfr. No
3000 units Poly Tube	**BP8007-1**

Buffer 1	0-20%
Buffer 2	20-50%
Buffer 3	20-50%
Buffer 4	20-50%
Buffer 5	20-50%
Buffer TaqI	100%

Applications: OPTIZYME™ TaqI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...T^C G A...3'
Supplied With: 10X OPTIZYME TaqI Buffer
Conditions for 100% Activity: 1X OPTIZYME Buffer TaqI: 10mM Tris-HCl (pH 8.0 at 37°C), 5mM MgCl2, 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 65°C; To ensure higher efficiency digestion, perform the cleavage reaction under paraffin oil.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 300mM KCl, 1mM DTT, 0.1mM EDTA, 0.5mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of TaqI required to digest 1 µg of lambda DNA dam - in 1 hour at 65°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ Tru9I
Source: Thermus ruber RFL1

packaging	Mfr. No
300 units Poly Tube	**BP8064-1**

Buffer 1	50-100%
Buffer 2	50-100%
Buffer 3	20-50%
Buffer 4	50-100%
Buffer 5	100%

Applications: OPTIZYME™ Tru9I digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...T^T A A...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2, 100mM KCl and 0.1mg/mℓ BSA; Incubate at 65°C; To ensure higher efficiency of digestion, perform the cleavage reaction under paraffin oil.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of Tru1I required to digest 1 µg of lambda DNA in 1 hour at 65°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay
Recommended storage: -20°C

OPTIZYME™ VspI
Source: Vibrio species

packaging	Mfr. No
1000 units Poly Tube	**BP8055-1**

Buffer 1	0-20%
Buffer 2	50-100%
Buffer 3	100%
Buffer 4	100%
Buffer 5	20-50%

Applications: OPTIZYME™ VspI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...A T^T A A T...3'
Supplied With: 10X OPTIZYME Buffer 3
Conditions for 100% Activity: 1X OPTIZYME Buffer 3: 50mM Tris-HCl (pH 7.5 at 37°C), 10mM MgCl2, 100mM NaCl and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of VspI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ XbaI
Source: Xanthomonas badrii

packaging	Mfr. No
2000 units Poly Tube	**BP8008-1**
10000 units Poly Tube	**BP8008-5**

Buffer 1	50-100%
Buffer 2	50-100%
Buffer 3	20-50%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ XbaI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...T^C T A G A...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 7mM 2-mercaptoethanol, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of XbaI required to digest 1 µg of lambda DNA dam --SmaI fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ XhoI
Source: Xanthomonas holcicola

packaging	Mfr. No
10000 units Poly Tube	**BP8010-5**
3000 units Poly Tube	**BP8010-1**

Buffer 1	0-20%
Buffer 2	50-100%
Buffer 3	50-100%
Buffer 4	20-50%
Buffer 5	100%

Applications: OPTIZYME™ XhoI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'....C^T C G A G...3'
Supplied With: 10X OPTIZYME Buffer 5
Conditions for 100% Activity: 1X OPTIZYME Buffer 5: 10mM Tris-HCl (pH 8.5 at 37°C), 10mM MgCl2 , 100mM KCl and 0.1mg/mℓ BSA; Incubate at 37°C.
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of XhoI required to digest 1 µg of lambda DNA-HindIII fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ XmaJI
Source: Xanthomonas maltophilia Jo 85-025

packaging	Mfr. No
200 units Poly Tube	**BP8082-1**

Buffer 1	20-50%
Buffer 2	50-100%
Buffer 3	50-100%
Buffer 4	100%
Buffer 5	50-100%

Applications: OPTIZYME™ XmaJI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...C^C T A G G...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.4 at 25°C), 100mM KCl, 1mM DTT, 1mM EDTA, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of XmaJI required to digest 1 µg of lambda DNA-SmaI fragments in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Blue/White Colony Certified, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ XmnI
Source: E. coli

packaging	Mfr. No
500 units Poly Tube	**BP8052-1**

Buffer 1	20-50%
Buffer 2	50-100%
Buffer 3	0-20%
Buffer 4	100%
Buffer 5	0-20%

Applications: OPTIZYME™ XmnI digests dsDNA with the recognition sequence indicated below.
Recognition Sequence: 5'...G A A N N^N N T T C...3'
Supplied With: 10X OPTIZYME Buffer 4
Conditions for 100% Activity: 1X OPTIZYME Buffer 4: 33mM Tris-acetate (pH 7.9 at 37°C), 10mM Mg-acetate, 66mM K-acetate and 0.1mg/mℓ BSA; Incubate at 37°C
Concentration: 10u/µℓ
Storage Buffer Components: 10mM Tris-HCl (pH 7.5 at 25°C), 100mM KCl, 1mM DTT, 5mM MgCl2, 0.2mg/mℓ BSA and 50% (v/v) glycerol
Unit Definition: One unit is defined as the amount of XmnI required to digest 1 µg of lambda DNA in 1 hour at 37°C in 50 µℓ of recommended reaction buffer.
Tested for: Overdigestion Assay, Ligation/Re-Cutting Assay, Genome Qualified
Recommended storage: -20°C

OPTIZYME™ 10X Buffer 1

packaging	Mfr. No
5X1mℓ Poly Tube	**021AD**

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 100mM Tris-HCl (pH 7.5 at 37°C), 100mM MgCl2, 1 mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer 2

packaging	Mfr. No
5X1mℓ Poly Tube	**021AE**

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 100mM Tris-HCl (pH 7.5 at 37°C), 100mM MgCl2, 500mM NaCl, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer 3

packaging	Mfr. No
5X1mℓ Poly Tube	**021AF**

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 500mM Tris-HCl (pH 7.5 at 37°C), 100mM MgCl2, 1M NaCl, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer 4

packaging	Mfr. No
5X1mℓ Poly Tube	**021AH**

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 330mM Tris-acetate (pH 7.9 at 37°C), 100mM magnesium acetate, 660mM potassium acetate, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer 5

packaging	Mfr. No
5X1mℓ Poly Tube	**021AK**

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 100mM Tris HCl (pH 8.5 at 37°C), 100mM MgCl2, 1M KCl , 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer AarI, ScaI, PasI

packaging		Mfr. No
1 mℓ	Poly Tube	021AX

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 100mM Bis-Tris Propane-HCl (pH 6.5 at 37°C), 100mM MgCl2, 1M KCl, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer Ecl136II, SacI

packaging		Mfr. No
1 mℓ	Poly Tube	021AW

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 100mM Bis-Tris Propane-HCl (pH 6.5 at 37°C), 100mM MgCl2, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer BamHI

packaging		Mfr. No
5X1mℓ	Poly Tube	021AL

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 100mM Tris-HCl (pH 8.0 at 37°C), 50mM MgCl2, 1M KCl , 0.2 % Triton X-100, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer EcoRI

packaging		Mfr. No
5X1mℓ	Poly Tube	021AM

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 500mM Tris-HCl (pH 7.5 at 37°C), 100mM MgCl2, 1M NaCl, 0.2 % Triton X-100, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer Cfr9I

packaging		Mfr. No
1 mℓ	Poly Tube	021AR

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 100mM Tris-HCl (pH 7.2 at 37°C), 50mM MgCl2, 2M sodium glutamate, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer KpnI

packaging		Mfr. No
1 mℓ	Poly Tube	021AT

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 100mM Tris-HCl (pH 7.5 at 37°C), 100mM MgCl2, 0.2% Triton X-100, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer Sau3AI

packaging		Mfr. No
1 mℓ	Poly Tube	**021AN**

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 330mM Tris-acetate (pH 7.9 at 37°C), 100mM Mg-acetate, 660mM K-acetate, 0.2% Triton X-100 and 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

OPTIZYME™ 10X Buffer TaqI

packaging		Mfr. No
1 mℓ	Poly Tube	**021AP**

Applications: The OPTIZYME™ Five Buffer System ensures the optimum reaction conditions for each restriction enzyme. This system consists of 10X Buffer 1, 10X Buffer 2, 10X Buffer 3, 10X Buffer 4 and 10X Buffer 5. The recommended buffer is supplied with each enzyme. To ensure consistent enzyme performance, OPTIZYME™ restriction enzyme buffers contain BSA, which enhances the stability of many enzymes and binds contaminants that may be present in DNA preparations. Multiple freeze-thaw cycles of the buffers will not cause BSA precipitation. OPTIZYME™ restriction enzymes exhibit 100% of their certified activity in the recommended buffer.
Components: 100mM Tris-HCl (pH 8.0 at 37°C), 50mM MgCl2, 1M NaCl, 1mg/mℓ BSA
Tested for: Functional Test, Endo- and Exonucleases Assay, Nicking Activity Assay
Recommended storage: -20°C

Denhardt's Reagent
50X Powder
Molecular Biology

packaging		Mfr. No
150 mg	AmberGlass	**BP520-5**

DNase	Not detected
Optical Absorbance of a 5X Solution (at 278nm)	0.6-0.8
pH of 1X solution (at 25°C)	5.0-7.0
Protease	Not detected
RNase	Not detected

Applications: Denhardt's Reagent is used as a blocking agent in DNA hybridizations.
A 50X concentrate is obtained by reconstituting with 5mℓ of sterile water.
Components: 50mg each of Ficoll*, Polyvinylpyrrolidone, and Bovine Albumin. [26873-85-8 (Ficoll)] ; [9003-39-8 (Polyvinylpyrrolidone)] ; [9048-46-8 (Bovine Albumin)]
Recommended Storage: 2°C to 8°C

Denhardt's Reagent
50X Solution
Molecular Biology

packaging		Mfr. No
5 mℓ	AmberGlass	**BP515-5**

DNase	Not detected
Optical Absorbance of a 5X Solution (at 278nm)	0.6-0.8
pH of 1X solution (at 25°C)	5.0-7.0
Protease	Not detected
RNase	Not detected

Applications: Denhardt's Reagent is used as a blocking agent in DNA hybridizations.
Components: <1% each of Ficoll*, Polyvinylpyrrolidone, and Bovine Albumin; and Water. Each 5mℓ of 50X Solution contains 50mg each of Ficoll*, Polyvinylpyrrolidone, and Bovine Albumin.
[26873-85-8 (Ficoll*)] ; [9003-39-8 (Polyvinylpyrrolidone)] ; [9048-46-8 (Bovine Albumin)]
Recommended Storage: -20°C

Dextran
White to Off-white Powder

packaging		Mfr. No
100 g	PolyBottle	**BP1580-100**

CAS: 9004-54-0

Heavy Metals (Pb)	<=0.0005%
Loss on drying	<=5%
pH of 1% Solution in 0.9% NaCl	6.5 ±0.3
Sulfated ash	<=1%

Applications: Dextran may be used with Polyethylene Glycol under certain conditions in the fractionation of proteins, cells, virus particles, and other macromolecules.
Dextran at neutral pH may be autoclaved.
Average M.W. of 500.000
Recommended Storage: RT

Dextran Sulfate Sodium Salt
White to Off-white Powder

packaging		Mfr. No
100 g	PolyBottle	**BP1585-100**
500 g	PolyBottle	**BP1585-500**

CAS: 9011-18-1

Moisture	<=7.5%
Sulfur Content	17-20%

Applications: Dextran Sulfate accelerates the rate of hybridization of DNA or RNA bound to membranes and may be used in Southern and Northern blotting procedures.
Average M.W. of 500.000
Recommended Storage: RT

Formamide
Molecular Biology

packaging		Mfr. No
100 mℓ	AmberGlass	**BP227-100**
500 mℓ	AmberGlass,EcoSafPak*	**BP227-500**

CH_3NO
CAS: 75-12-7
MW: 45.04
EINECS: 200-842-0

H360D
P201, P308+P313

Assay	>=99.0%
Conductivity	<=350µmhos/cm
Copper	<=0.0001%
Freezing Point	1.0°-3.0°C
Iron	<=0.0005%
Lead	<=0.0005%
Optical Absorbance at 280nm	<=0.1
Zinc	<=0.0005%

H2NCH:O; CH3NO; F.W. 45.04
Applications: Molecular Biology-grade Formamide is commonly used in nucleic acid hybridization and sequencing.
It requires pretreatment with a mixed-bed resin.
Recommended Storage: 4°C
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.
Vacuum distilled and packaged under Nitrogen

Hybridization Cocktail
50% Formamide
Molecular Biology

packaging		Mfr. No
50 mℓ	PolyBottle	**BP1575-50**

DNase	Not detected
RNase	Not detected
Suitability for Nucleic Acid Hybridization	To pass test

Applications: Hybridization Cocktail is formulated for use in Southern and Northern transfers, dot blots, and in situ DNA and RNA hybridizations.
Components: <85.0% Formamide, 2.2% Sodium Citrate Dihydrate, 4.4% Sodium Chloride, and <6.0% Dextran, Hydrogen Sulfate, Sodium Salt [75-12-7 (Formamide)] ; [6132-04-3 (Sodium Citrate Dihydrate)] ; [7647-14-5 (Sodium Chloride)] ; [9011-18-1 (Dextran, Hydrogen Sulfate, Sodium Salt)]
Recommended Storage: -20°C

Saline-Sodium Citrate
20X solution
Molecular Biology

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1325-1**
4 ℓ	PolyPac*	**BP1325-4**
20 ℓ	PolyPac*	**BP1325-20**

CAS: [7647-14-5 (Sodium Chloride)], [6132-04-3 (Sodium Citrate Dihydrate)]

DNase	Not detected
NaCl Molarity	3 ±0.10M
pH (20X solution) (at 23°C)	7.0±0.1
Protease	Not detected
RNase	Not detected

Filtered through a 2-5 micron filter.
Applications: Saline-Sodium Citrate (SSC) is used as a buffer in Southern Blot transfer protocols.
Recommended storage: RT

Saline-Sodium Phosphate-EDTA
20X solution

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1328-1**
4 ℓ	PolyPac*	**BP1328-4**
20 ℓ	PolyPac*	**BP1328-20**

0.2M NaH_2PO4, 3.0M NaCl and 0.02M EDTA
CAS: [7647-14-5 (Sodium Chloride)], [7558-80-7 (Sodium Phosphate Monobasic, anhydrous)], [60-00-4 (Ethylenediamine Tetraacetic Acid)]

DNase	Not detected
Ethylenediaminetetraacetic acid	0.6%
Molarity of NaCl	3 ±0.10M
pH (20X solution) (at 23°C)	7.4±0.1
Protease	Not detected
RNase	Not detected
Sodium Biophosphate	2.8%
Sodium (Na)	2.8% phosphate
sodium chloride	17.5 %

Filtered through a 2-5 micron filter.
Applications: Saline-Sodium Phosphate-EDTA is used in bacterial screening and hybridization procedures.
0.2M NaH_2PO_4, 3.0M NaCl and 0.02M EDTA
Recommended storage: RT

8-Hydroxyquinoline
White to Light-buff Needles or Powder

packaging		Mfr. No
100 g	AmberGlass	**BP436-100**

C_9H_7NO
CAS: 148-24-3
MW: 145.16
EINECS: 205-711-1
H319, H315, H335, H332,

H312, H302, H341
P281, P260, P301+P312,
P304+P340, P302+P352,
P280, P305+P351+P338

Assay	>=99.0%
Insoluble in Alcohol	<=0.05%
Melting Point	72.5°-74.0°C
Residue after ignition	<=0.05%
Suitability for Magnesium Determination	To pass test
Sulfate (SO_4)	To pass test (about 0.02%)

Applications: 8-Hydroxyquinoline is used to stabilize phenol.
Recommended Storage: RT

Ammonium Acetate
White Crystals

packaging		Mfr. No
500 g	AmberGlass	**BP326-500**
1 kg	AmberGlass	**BP326-1**

$C_2H_7NO_2$
CAS: 631-61-8
MW: 77.08

Assay	>=97.0%
Chloride (Cl)	<=5ppm
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.005%
Iron	<=5ppm
Nitrate	<=0.001%
Optical Absorbance of a 1M Solution at 254nm	<=0.02
Optical Absorbance of a 1M Solution at 280nm	<=0.01
Optical Absorbance of a 1M Solution at 350nm	<=0.01
pH of 5% Solution (at 25°C)	6.7-7.3
Residue after ignition	<=0.01%
Sulfate (SO_4)	<=0.001%

Applications: Ammonium Acetate can be used to precipitate DNA from enzymatic reactions.
Recommended Storage: 4°C

Cesium Chloride
Crystalline Powder

packaging		Mfr. No
500 g	PolyBottle	**BP1595-500**
1 kg	PolyBottle	**BP1595-1**

ClCs EINECS: 231-600-2
CAS: 7647-17-8
MW: 168.36

Assay	>=99.5%
DNase	Not detected
Lithium metal in liquid paraffin	<=0.0002%
Potassium	<=0.03%
Protease	Not detected
Refractive Index (50% solution at 25°C)	1.369 ±0.005
RNase	Not detected
Sodium	<=0.02%
UV A260nm of a 50% Solution (w/v)	<=0.08

Applications: This economical grade of Cesium Chloride can be used where low levels of metal ion impurities do not interfere. It is recommended for isolating phage DNA, plasmid DNA, or total RNA.
Recommended Storage: RT

Cesium Chloride
White Crystalline Powder

packaging		Mfr. No
100 g	PolyBottle	**BP210-100**
500 g	PolyBottle	**BP210-500**
1 kg	PolyBottle	**BP210-1**

ClCs EINECS: 231-600-2
CAS: 7647-17-8
MW: 168.36

Assay	>=99.999%
DNase	Not detected
Lithium metal in liquid paraffin	<=1ppm
Potassium	<=2ppm
Protease	Not detected
Refractive Index of a 50% Solution	1.369 ±0.002
RNase	Not detected
Sodium	<=4ppm
UV A260nm of a 50% Solution (w/v)	<=0.02

Applications: This Molecular Biology-grade cesium chloride is ideal for UV analysis of nucleic acids during density-gradient centrifugation and for the isolation of plasmid DNA, phage DNA, virus particles, and RNA.
Recommended Storage: RT

Ethanol, Absolute (200 proof) DNase-, RNase- and Protease-Free
Molecular Biology Grade

packaging		Mfr. No
100 mℓ	Amber Glass	**BP2818-100**
500 mℓ	Amber Glass	**BP2818-500**
4 ℓ	Amber Glass	**BP2818-4**

C_2H_6O H225
CAS: 64-17-5 P210, P240
MW: 46.07

Acetone, Isopropyl alcohol	To pass test
Assay	>=99.5%
Benzene	<=2 ppm
DNase	Not detected
Infrared spectrum	Conforms to ref.
Methanol	<=0.1%
Protease	Not detected
Residue after evaporation	<=0.001%
RNase	Not detected
Solubility in water	Pass test
Substances darkened by H_2SO_4	Pass test
Substances reducing KMnO 4	Pass test
Titratable acid	<=0.0005mEq /g
Titratable base	<=0.0002mEq /g
Water Content	<=0.2%

Applications: For the purification and precipitation of biomolecules such as nucleic acids and proteins. It is also used in histology to prepare staining and destaining reagents and for dehydrating tissues prior to embedding.
Recommended storage: RT

Ethylenediamine Tetraacetic Acid 0.5 M Solution, pH 8.0 (for DNA Work)
Clear, Colorless Liquid

packaging		Mfr. No
100 mℓ	AmberGlass	**BP2482-100**
500 mℓ	AmberGlass	**BP2482-500**
1 ℓ	AmberGlass	**BP2482-1**
20 ℓ	PolyPac*	**BP2482-20**

$(HOOCCH_2)_2NCH_2CH_2N(CH_2COOH)_2;C_{10}H_{16}N_2O_8$
CAS: 60-00-4
MW: 292.25

H319
P280, P305+P351+P338

Molarity	0.475-0.525 M
pH	8.0±0.1

Applications: EDTA is used extensively in molecular biology to minimize metal ion impurities in reaction buffers. Ideal for DNA work.
Recommended Storage: RT

Guanidine Hydrochloride
Colorless-to-white Crystals

packaging		Mfr. No
500 g	PolyBottle	**BP178-500**
1 kg	PolyBottle	**BP178-1**

$CH_5N_3.HCl$
CAS: 50-01-1
MW: 95.53
EINECS: 200-002-3

H315, H302, H319
P301+P312, P302+P352,
P280, P305+P351+P338

Absorbance of a 6M Solution at 260nm	<=0.03
Absorbance of a 6M Solution at 280nm	<=0.01
Arsenic	<=5ppm
Assay	>=99.5%
Iron	<=5ppm
Lead	<=5ppm

$H_2NC(NH_2)$:NH·HCl;CH_5N_3·HCl;F.W.95.53
Applications: Guanidine Hydrochloride is a strong protein-denaturing agent used in the isolation of RNA from cell extracts. RNase activity is inhibited in the presence of this reagent.
Recommended Storage: RT

Guanidine Thiocyanate
White Crystalline Powder

packaging		Mfr. No
250 g	PolyBottle	**BP221-250**
1 kg	PolyBottle	**BP221-1**

$CH_5N_3.CHNS$
CAS: 593-84-0
MW: 118.16
H312, H332, H302, H412,
H314, EUH032

P280, P301+P330+P331,
P305+P351+P338, P310,
P302+P352, P273,
P233

A280nm (70% in H_2O at 25°C)	<=0.8
Assay	>=99.0%
Melting Point	117°-122°C
Solubility (70% in H_2O at 25°C)	Clear and haze-free

Applications: A more powerful denaturing agent than Guanidine Hydrochloride, Guanidine Thiocyanate is suitable for the isolation of intact RNA from cell extracts.
Recommended Storage: RT

Isopropanol
Molecular Biology-Grade

packaging		Mfr. No
500 mℓ	Amber Glass	**BP2618-500**
1 ℓ	Amber Glass	**BP2618-1**
2.5 ℓ	Amber Glass	**BP2618-212**
4 ℓ	Amber Glass	**BP2618-4**

C_3H_8O
CAS: 67-63-0
MW: 60.1
EINECS: 200-661-7

H225, H336, H319
P261, P280,
P305+P351+P338, P210,
P240

Acetone	<=0.002%
Assay	>=99.9%
Color (APHA)	<=5 APHA
DNase	Not detected
Fluorescence Background (as Quinine Sulfate)	<=1 ppb
Optical Abs. at 205nm	<=1
Optical Abs. at 220nm	<=0.20
Optical Abs. at 230nm	<=0.10
Optical Abs. at 254nm	<=0.015
Propionaldehyde	<=0.002%
Protease	Not detected
Ref. index at 25°C	Inclusive between 1.3740-1.3760
Residue after evaporation	<=1 ppm
RNase	Not detected
Solubility in water	To pass test
Substances reducing KMnO 4	To pass test
Titrat. acid or base	<=0.0001mEq/g.
Water Content	<=0.05%

Applications: Used in fundamental applications, such as purification and precipitation of nucleic acids and proteins and preservation of biological specimens.
Recommended storage: RT

Phenol/Chloroform/Isoamyl Alcohol
125:24:1 Mixture, pH 4.3, Liquid

packaging		Mfr. No
100 mℓ	CoatedAmberGlass/PoisonPack	**BP1754I-100**
400 mℓ	CoatedAmberGlass/PoisonPack	**BP1754I-400**

CAS: 108-95-2
EINECS: 203-632-7
H301, H314, H341, H318,
H331, H311, H351, H373

P280, P301+P330+P331,
P302+P350, P304+P340,
P305+P351+P338, P310,
P260

Assay	>99.0%
Optical Absorbance at 330nm	<0.2
Optical Absorbance at 405nm	<0.1
Optical Absorbance at 510nm	<0.1
pH	4.3±0.2

Applications: This mixture is used to purify total RNA from mixtures containing RNA, DNA, and protein.
Recommended Storage: 4°C
UN 2821; DOT Class 6.1:Poison

Phenol/Chloroform/Isoamyl Alcohol
25:24:1 Mixture, pH 5.2, Liquid

packaging		Mfr. No
100 mℓ	CoatedAmberGlass/PoisonPack	**BP1753I-100**
400 mℓ	CoatedAmberGlass/PoisonPack	**BP1753I-400**

CAS: 108-95-2
EINECS: 203-632-7
H301, H314, H341, H318, H331, H311, H351, H373

P280, P301+P330+P331, P302+P350, P304+P340, P305+P351+P338, P310, P260

Assay	>99.0%
Optical Absorbance at 330nm	<0.2
Optical Absorbance at 405nm	<0.1
Optical Absorbance at 510nm	<0.1
pH (with buffer)	5.2±0.3

Applications: This mixture is used for extracting protein from nucleic acid preparations.
Recommended Storage: 4°C
UN 2821; DOT Class 6.1:Poison

Phenol, Saturated
pH 4.3, Liquid

packaging		Mfr. No
100 mℓ	CoatedAmberGlass/PoisonPack	**BP1751I-100**
400 mℓ	CoatedAmberGlass/PoisonPack	**BP1751I-400**

C_6H_5OH
MW: 94.04
H301, H311, H331, H314, H373, H341
P280, P302+P350,

P301+P330+P331, P305+P351+P338, P304+P340, P301+P310, P260

Assay	>99.0%
Optical Absorbance at 330nm	<0.2
Optical Absorbance at 405nm	<0.1
Optical Absorbance at 510nm	<0.1
pH (with buffer)	4.3±0.2

Applications: Phenol saturated with Tris buffer is used for purifying RNA.
Capped with a layer of buffer.
Recommended Storage: 4°C
UN 2821; DOT Class 6.1:Poison

Phenol/Chloroform/Isoamyl Alcohol
25:24:1 Mixture, pH 6.7/8.0, Liquid

packaging		Mfr. No
100 mℓ	CoatedAmberGlass/PoisonPack	**BP1752I-100**
400 mℓ	CoatedAmberGlass/PoisonPack	**BP1752I-400**

CAS: 136112-00-0
H341, H373, H314, H351, H301, H311, H331
P301+P330+P331, P280, P305+P351+P338, P310, P281, P304+P340, P260

Assay	>99.0%
Optical Absorbance at 330nm	<0.2
Optical Absorbance at 405nm	<0.1
Optical Absorbance at 510nm	<0.1
pH	6.7±0.2

Applications: This mixture is used for extracting protein from crude nucleic acid preparations.
Recommended Storage: 4°C
UN 2821; DOT Class 6.1:Poison

Phenol, Saturated
pH 6.6/7.9, Liquid

packaging		Mfr. No
100 mℓ	CoatedAmberGlass/PoisonPack	**BP1750I-100**
400 mℓ	CoatedAmberGlass/PoisonPack	**BP1750I-400**

H314, H331, H373, H341, H311
P280, P302+P350, P301+P330+P331, P305+P351+P338, P304+P340, P301+P310, P260

Assay	>99.0%
DNase	Not detected
Optical Absorbance at 330nm	<0.2
Optical Absorbance at 405nm	<0.1
Optical Absorbance at 510nm	<0.1
pH	6.6±0.2
pH (with buffer)	7.9±0.2
RNase	Not detected

Applications: Phenol saturated with Tris buffer is used in DNA extraction procedures.
Capped with a layer of buffer.
Recommended Storage: 4°C
UN 2821; DOT Class 6.1:Poison

Proteinase K
Molecular Biology

From Tritirachium album

packaging		Mfr. No
50 mg	PolyBottle	**BP1700-50**
100 mg	PolyBottle	**BP1700-100**
500 mg	PolyBottle	**BP1700-500**

CAS: 39450-01-6
EINECS: 254-457-8
H315, H319, H335, H334

P261, P280,
P305+P351+P338

DNase	Not detected
RNase	Not detected
Specific Activity	>=30U/mg

Applications: Proteinase K is widely used in the isolation of DNA and RNA from cell and tissue preparations. It is a wide-spectrum protease, inactivating many enzymes, including endogenous nucleases.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Sodium Acetate Anhydrous

White Crystals or Granular Powder

packaging		Mfr. No
500 g	PolyBottle	**BP333-500**
1 kg	PolyBottle	**BP333-1**

$C_2H_3NaO_2$
CAS: 127-09-3
MW: 82.03

EINECS: 204-823-8

Assay	>=99.0%
Calcium (Ca)	<=0.005%
Chloride (Cl)	<=0.002%
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.01%
Iron	<=0.001%
Loss on Drying (at 120°C)	<=1.0%
Magnesium (Mg)	<=0.002%
pH of 5% Solution (at 25°C)	7.0-9.2
Phosphate (PO_4)	<=0.001%
Sulfate (SO_4)	<=0.003%

Applications: Sodium Acetate is added to DNA reactions to facilitate ethanol precipitation of the DNA.
Recommended Storage: RT

Sodium Acetate Trihydrate

Colorless-to-white Crystals

packaging		Mfr. No
500 g	PolyBottle	**BP334-500**

$C_2H_3NaO_2.3H_2O$
CAS: 6131-90-4
MW: 136.08

Assay	99.0-101.0%
Calcium (Ca)	<=0.005%
Chloride (Cl)	<=0.001%
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.005%
Iron	<=5ppm
Magnesium (Mg)	<=0.002%
pH of 5% Solution (at 25°C)	7.5-9.2
Phosphate (PO_4)	<=5ppm
Potassium	<=0.005%
Substances Reducing Permanganate	To pass test
Sulfate (SO_4)	<=0.002%

Applications: The trihydrate form of Sodium Acetate can be used for many of the same applications as the anhydrous form.
Recommended Storage: RT

Sodium Chloride-Tris-EDTA (STE) Buffer

10X, pH 8.0

packaging		Mfr. No
100 mℓ	PolyBottle	**BP2479-100**
500 mℓ	PolyBottle	**BP2479-500**
1 ℓ	PolyBottle	**BP2479-1**

DNase	Not detected
pH of 1X solution (at 25°C)	7.9-8.1
Protease	Not detected
RNase	Not detected

Applications: STE buffer is suitable for biomolecular lab procedures.
10X Solution contains 100mM Tris-HCl, 10mM EDTA, and 1M NaCl.
Autoclaved.
[77-86-1 (Tris Base)] ; [60-00-4 (EDTA)] ; [7647-01-0 (HCl)] ; [7647-14-5 (NaCl)]
Recommended Storage: RT
Filtered through a 5-micron filter.

Sodium Chloride-Tris-EDTA Buffer

1X, pH 8.0

packaging		Mfr. No
500 mℓ	PolyBottle	**BP2478-500**
1 ℓ	PolyBottle	**BP2478-1**

DNase	Not detected
pH (at 25°C)	7.9-8.1
Protease	Not detected
RNase	Not detected

Applications: STE buffer is suitable for biomolecular lab procedures.
1X solution contains 10mM Tris-HCl, 1mM EDTA and 100mM NaCl.
Autoclaved.
[77-86-1 (Tris Base)] ; [60-00-4 (EDTA)] ; [7647-01-0 (HCl)] ; [7647-14-5 (NaCl)]
Recommended Storage: RT
Filtered through a 5-micron filter.

Spermidine Trihydrochloride
White Crystalline Powder

packaging		Mfr. No
1 g	AmberGlass	**BP2540-1**
5 g	AmberGlass	**BP2540-5**
25 g	AmberGlass	**BP2540-25**

$C_7H_{19}N_3.3HCl$
CAS: 334-50-9
MW: 254.63
EINECS: 206-379-0

H319, H335, H315
P261, P302+P352, P280, P305+P351+P338

Assay ..... >=99%
FTIR ..... Conforms to standard
Melting Point ..... 253°-263°C

Applications: Spermidine Trihydrochloride forms stable compounds with nucleic acids. It is used in biochemical research.
Recommended Storage: Store below 20°C, desiccate.

SurePrep* FFPE RNA Isolation Kit
For the rapid and efficient extraction and purification of RNA (including microRNA) from FFPE samples

packaging	Mfr. No
50 preps	**7317H**

Average Yield .. Variable due to age of parrafin blocks; 2-3 µg of total RNA per 1mg of fresh FFPE hamster kidney
Binding capacity per column ..... Up to 50µg RNA
Maximum amount of starting material..5 slices of 20mm thick paraffin slices (25 mg of unsectioned block)
Maximum loading volume per spin column ..... 650 µℓ
Size of RNA purified ..... All sizes, including small RNA and microRNA (<200n.t.)
Time to complete 10 purifications ..... 1 to 4 hours

Applications: Rapid method for the isolation and purification of total RNA from formaldehyde-fixed paraffin-embedded (FFPE) tissue samples.
Description: High quality and integrity of the isolated RNA - The purified total RNA is of the highest quality and integrity, and can be used in any sensitive downstream applications; Isolate a diversity of RNA species - All RNA species can be isolated, from large mRNA and ribosomal RNA down to microRNA (miRNA) and small interfering RNA (siRNA); High yields - The FFPE RNA Purification Kit allows for the purification of high yields of total RNA; No phenol:chloroform extractions - Total RNA is isolated from FFPE tissue samples without the use of harmful chemicals such as phenol or chloroform; Rapid procedure - Isolate total RNA from FFPE tissue sections using a rapid spin column format in as little as 1 hour
Components: Enzyme incubation buffer (6mL); Digestion buffer (20mL); Wash solution (22mL); Binding solution (20mL); Proteinase K (12mg); DNase I (1 vial); Elution buffer (6mL); Spin columns (50); Collection tubes (50); Elution tubes, 1.7mℓ (50).
Recommended storage: RT

SurePrep* Plant/Fungi Total RNA Purification Kit
For the rapid purification of total RNA (including microRNA) from plants and fungi

packaging	Mfr. No
50 preps	**BP2817-50**

Average yield: 50mg Grape leaves ..... 35 µg
Average yield: 50mg Peach leaves ..... 30 µg
Average yield: 50mg Plum leaves ..... 32 µg
Average yield: 50mg Tobacco leaves ..... 60 µg
Average yield: 50mg Tomato leaves ..... 60 µg
Column binding capacity ..... 50 µg
Maximum amount of starting material: Fungi (wet weight) ..... 50 µg
Maximum amount of starting material: Plant cells ..... 1 X 106cells
Maximum amount of starting material: Plant tissues ..... 50 mg
Maximum column loading volume ..... 650 µℓ
Size of RNA purified ..... All sizes, including small RNA and microRNA (<200n.t.)
Time to complete 10 purifications ..... 30 min

Applications: Rapid method for the isolation and purification of total RNA from a wide range of plant and filamentous fungi species.
Description: No liquid nitrogen required for homogenization - Liquid nitrogen is not required for homogenization of samples, making RNA purification rapid and convenient; Isolate RNA from a wide range of samples - Total RNA can be isolated from a wide range of plant and filamentous fungi samples; Isolate a diversity of RNA species - All sizes of RNA are isolated from large mRNA down to microRNA, without the use of phenol or chloroform; Isolate total RNA, including viral RNA - RNA samples can be used for the detection of viral pathogens, as viral RNA is isolated with the total RNA; High yield of RNA - High yields of purified RNA can be isolated with this kit; No phenol:chloroform extractions - Total RNA is isolated without the use of harmful chemicals such as phenol or chloroform. RNA is of the highest quality and can be used in a number of downstream applications.
Components: Wash solution (22mL); Lysis solution (40mL); Elution buffer (6mL); Spin columns (50); Collection tubes (50); Elution tubes, 1.7mℓ (50).
Recommended storage: RT

SurePrep* Soil DNA Isolation Kit
For the rapid preparation of inhibitor-free DNA from common types of soil

packaging	Mfr. No
50 preps	**BP2815-50**

Column binding capacity ..... 50 µℓ
Maximum column loading volume ..... 650 µℓ
Maximum soil input ..... 250 mg
Time to complete 10 purifications ..... 30 min
Type of soil processed ..... All common soil types, including clay, loam and sandy soil

Applications: Isolation and purification of total DNA from microorganisms in soil and sediment samples, such as bacteria, fungi, and algae.
Description: Process all types of soil - All types of soil samples can be processed with this kit, including common soil samples such as clay, loam and sandy soil; Remove all humic acid from DNA samples - The kit removes all traces of humic acid using the provided Bead Tubes and a combination of chemical and physical homogenization and lysis. All the brown colour is removed from the samples; Rapid detection of microorganisms in soil samples - Isolate total DNA from all microorganisms found in soil, including bacteria, fungi and algae; Fast and easy processing - Rapid spin column format allows for the isolation of DNA in under 30 minutes; .Isolate high quality total DNA - The purified DNA is free from all inhibitors including humic acid, and can be used directly in downstream applications including PCR.
Components: Lysis additive (6mL); Binding solution (6mL); Lysis solution (45mL); Wash solution I (30mL); Wash solution II (18mL); Elution buffer (6mL); Spin columns (50); Collection tubes (50); Beads (30g); Screw cap tubes (50); Elution tubes, 1.7 mℓ (50).
Recommended storage: RT

Fisher BioReagents* SurePrep* Small RNA Purification Kit

Optimized for enrichment of small RNA by removing large RNA for studying regulation of gene expression

- Isolate all small RNA molecules (<200 nucleotides)
- Minimal contamination from large RNA molecules and genomic DNA
- Fast and easy processing using rapid spin-column format
- No phenol or chloroform extractions
- High quality small RNA such as miRNA and siRNA can be used in various downstream applications

BP2801-25

APPLICATIONS: Purified small RNA is suitable for use in RT-PCR, Northern blotting, and microarray analysis

INCLUDES: Lysis solution (2 x 20mL), Wash solution (22mL), RNA elution buffer (6mL), large RNA removal columns (25), small RNA enrichment columns (25), Collection tubes (50), Elution tubes (1.7mL) (50) and Product insert

STORAGE CONDITIONS: All solutions should be kept tightly sealed and stored at room temperature. Reagents should remain stable for at least two years in unopened containers.

Kit Specifications	
Column binding capacity	50µg
Maximum column loading volume	600µL
Size of RNA Purified	<200 nt
Maximum amount of starting material:	
Animal cells	3×10^6 cells
Animal tissues	25mg
Bacteria	5×10^8 cells
Plant tissues	50mg
Time to complete ten purifications	45 minutes

No. of Preps	Cat. No.	MFR No.
25	**1029-5253**	BP2801-25

Fisher BioReagents* SurePrep* Leukocyte RNA Purification Kit

Rapid method for the isolation and purification of total leukocyte (white blood cell) RNA from mammalian blood samples

- Fast and easy processing using rapid spin-column format
- Differential red blood cell lysis allows for the removal of a majority of globin mRNA
- Isolate total leukocyte RNA, including all small RNA species
- No phenol or chloroform extractions
- High quality leukocyte RNA can be used in a number of downstream applications

BP2807-50

APPLICATIONS: Purified RNA is suitable for use in real time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays

INCLUDES: RBC Lysis Solution (180mL); Binding Solution (25mL); Wash Solution (22mL); RNA Elution Buffer (6mL); Spin Columns (50); Collection Tubes (50); Elution tubes (1.7mL) (50); Product Insert (1)

STORAGE CONDITIONS: All solutions should be kept tightly sealed and stored at room temperature. The RBC Lysis Solution should be stored at 4°C upon arrival. These reagents should remain stable for at least two years in their unopened containers.

Kit Specifications	
Column binding capacity	50µg
Maximum Column Loading Volume	600µL
Size of RNA Purified	All sizes, including small RNA (<200 nt)
Maximum Blood Input	2mL or 3×10^6 Leukocytes
Minimum Blood Input	10µL
Time to complete ten purifications	45 minutes
Average Yield: 500µL human blood	1.5µg

No. of Preps	Cat. No.	MFR No.
50	**1018-4043**	BP2807-50

Fisher BioReagents* SurePrep* TrueTotal* RNA Purification Kit

Rapidly isolate and purify total RNA from a variety of biological sources

- Fast and easy processing using rapid spin-column format
- Isolate all sizes of RNA including large RNA and small RNA species
- No phenol or chloroform extractions
- Isolate and detect RNA from as little as a single animal cell
- Purify total RNA from a variety of biological sources such as cultured animal cells, tissue samples, blood, bacteria, yeast, fungi and plants

BP2800-50

APPLICATIONS: Purified intact RNA is suitable for Quantitative RT-PCR, Northern blotting, RNase protection, and expression array assays

INCLUDES: Lysis solution (40mL), Wash solution (22mL), Elution buffer (6mL), Micro spin columns (50), Collection tubes (50), Elution tubes (1.7mL) (50) and product insert

STORAGE CONDITIONS: All solutions should be kept tightly sealed and stored at room temperature. Reagents should remain stable for at least two years in unopened containers.

Kit Specifications	
Column binding capacity	50µg
Maximum column loading volume	600µL
Size of RNA Purified	All sizes, including small RNA (<200 nt)
Maximum amount of starting material:	
Animal cells	3×10^6 cells
Animal tissues	25mg
Blood	100µL
Bacteria	1×10^9 cells
Yeast	1×10^8 cells
Fungi	50mg
Plant tissues	50mg
Time to complete ten purifications	20 minutes
Average yields†	
HeLa cells (1×10^6 cells)	15µg
E. coli (1×10^9 cells)	50µg

† Average yields will vary depending upon a number of factors including species, growth conditions, and developmental stage.

No. of Preps	Cat. No.	MFR No.
50	**1057-3155**	BP2800-50

Fisher BioReagents* SurePrep* RNA Cleanup and Concentration Kit

Provides a rapid method to purify and concentrate RNA isolated using other methods such as phenol:chloroform extraction or after enzymatic reactions

- Fast and easy processing using rapid spin-column format
- Suitable for all sizes of RNA, from large mRNA to microRNA (miRNA)
- Able to clean up RNA isolated using different methods, including phenol/chloroform extractions
- Efficient RNA cleanup from various enzymatic reactions such as labeling, DNase treatment and in vitro transcription

BP2809-50

APPLICATIONS: Purified RNA is suitable for Quantitative RT-PCR, Northern blotting, RNase protection, primer extension, and expression array assays

INCLUDES: Binding solution (2 x 20mL), Wash solution (22mL), RNA elution buffer (6mL), Collection tubes (50), Spin columns (50), Elution tubes (1.7mL) (50), Product insert

STORAGE CONDITIONS: All solutions should be kept tightly sealed and stored at room temperature. Reagents should remain stable for at least two years in unopened containers.

Kit Specifications	
Column binding capacity	50µg
Size of RNA Purified	All sizes, including small RNA (<200 nt)
Maximum Amount of Starting Material	50µg of RNA
Minimum Elution Volume	20µL
Time to complete ten purifications	20 minutes
Average Recovery	≥90%

No. of Preps	Cat. No.	MFR No.
50	**1060-9173**	**BP2809-50**

Fisher BioReagents* SurePrep* RNA/Protein Purification Kit

Rapid method for the isolation and purification of total RNA and proteins sequentially from a single sample using the same column in less than 20 minutes

- Fast and easy processing using rapid spin-column format
- All columns for RNA purification and protein purification provided
- Sequentially isolate high quality RNA and proteins from a single lysate – no need to split the lysate
- Isolate all sizes of RNA, from large mRNA and rRNA down to microRNA (miRNA)
- No phenol or chloroform extractions
- Purify total RNA and proteins from a variety of biological sources such as cultured animal cells, tissue samples, blood, bacterica, yeast, fungi or plants

BP2806-50

APPLICATIONS: Purified total RNA and protein from same biological sample for studies of gene expression including gene silencing experiments, mRNA knockdowns, or experiments correlating RNA and protein expression levels. RNA qualified for use in real time PCR, reverse transcription PCR, Northern blotting, RNase protection and expression array assays. Proteins suitable for use in SDS-PAGE analysis and Western blots.

INCLUDES: Lysis solution (40mL); Nucleic acid wash solution (22mL); Nucleic acid elution buffer (15mL); Protein column regeneration buffer (30mL); Protein column activation and wash buffer (60mL); Protein pH binding buffer (4mL); Protein elution buffer (8mL); Enzyme incubation buffer (6mL); Protein neutralizer (2mL); Protein loading dye (2mL); Spin colulmns (50); Collection tubes (150); Product insert (1)

STORAGE CONDITIONS: The Protein Loading Dye should be stored at -20°C upon arrival. All other solutions should be kept tightly sealed and stored at room temperature. These reagents should remain stable for at least one year in their unopened containers.

Kit Specifications	
Column binding capacity	50µg for RNA
	200µg for protein
Maximum Column Loading Volume	600µL
Size of RNA Purified	All sizes, including small RNA (<200 nt)
Maxium Amount of Starting Material:	
Animal Cells	3 x 10^6 cells
Animal Tissues	25mg
Blood	100µL
Bacteria	1 x 10^9 cells
Yeast	1 x 10^8 cells
Fungi	50mg
Plant Tissues	50mg
Time to complete ten purifications	30 minutes
Average Yield*	
HeLa Cells (1 x 10^6 cells)	15µg RNA
HeLa Cells (1 x 10^6 cells)	150µg protein

** Average yields will vary depending upon a number of factors including species, growth conditions used and developmental stage.*

No. of Preps	Cat. No.	MFR No.
50	**1038-8613**	**BP2806-50**

Fisher BioReagents* SurePrep* Nuclear or Cytoplasmic RNA Purification Kit

Rapid method for the isolation and purification of both nuclear and cytoplasmic RNA from cultured animal cells and animal tissue samples

BP2805-50

- Fast and easy processing using rapid spin-column format
- High quality intact RNA can be used in various downstream applications
- Enrich for cytoplasmic or nuclear RNA depending on downstream application
- No genomic DNA contamination in the cytoplasmic fraction
- No phenol or chloroform extractions
- Isolate all sizes of RNA from each fraction, including all small RNA molecules (>200 nt)
- Kit provides sufficient reagents to perform either 50 cytoplasmic RNA preparations or 25 cytoplasmic and nuclear preparations

APPLICATIONS: Purification of Nuclear and Cytoplasmic RNA suitable for real time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays.

INCLUDES: Lysis solution (20mL); Wash solution (22mL); Binding solution (25mL); RNA elution solution (6mL); Spin columns (50); Collection tubes (50); Elution tubes (1.7mL) (50); Product insert (1)

STORAGE CONDITIONS: All solutions should be kept tightly sealed and stored at room temperature. These reagents should remain stable for at least two years in their unopened containers.

Kit Specifications	
Column binding capacity	50µg
Maximum Column Loading Volume	600µL
Size of RNA Purified	All sizes, including small RNA (<200 nt)
Maximum Amount of Starting Material:	
Animal Cells	3 x 10^6 cells
Animal Tissues	15mg
Time to complete ten purifications	45 minutes
Average Yields*	
HeLa Cells - cytoplasmic (1 x 10^6 cells)	15µg
HeLa Cells - nuclear (1 x 10^6 cells)	≤3.5µg

No. of Preps	Cat. No.	MFR No.
50 (Cyto); 25 (Nuc & Cyto)	1004-2624	BP2805-50

Fisher BioReagents* SurePrep* Urine Bacterial RNA Purification Kit

Designed for the rapid preparation of bacterial RNA from human or animal urine samples

- Fast and easy processing using rapid spin-column format
- Isolate total RNA, from large mRNA down to microRNA (miRNA)
- No phenol or chloroform extractions
- Isolate RNA from both Gram negative and Gram positive bacteria, including *E. coli, Proteus spp., Klebsiella spp., Enterobacter spp., Serratia spp., Pseudomonas spp., Clostridial ssp.* and *Leptospirosis spp.*, as well as *Chlamydia trachomatis* and *Neisseria gonorrhoeae*

BP2804-50

APPLICATIONS: Purified bacterial RNA suitable for real time PCR, reverse transcription PCR, Northern blotting, RNase protection, primer extension, and expression array assays.

INCLUDES: Lysis solution (40mL); Wash solution (22mL); RNA elution buffer (6mL); Spin columns (50); Collection tubes (50); Elution tubes (1.7mL) (50); Product insert (1)

STORAGE CONDITIONS: All solutions should be kept tightly sealed and stored at room temperature. These reagents should remain stable for at least two years in their unopened containers.

Kit Specifications	
Column binding capacity	50µg
Volume of Urine Processed	10-50mL
Size of RNA Purified	All sizes, including small RNA (<200 nt)
Time to complete ten purifications	30 minutes
Average Yield	~0.5µg RNA per 1 x 10^7 cells (Varies due to cell density of sample)

No. of Preps	Cat. No.	MFR No.
50	1058-2744	BP2804-50

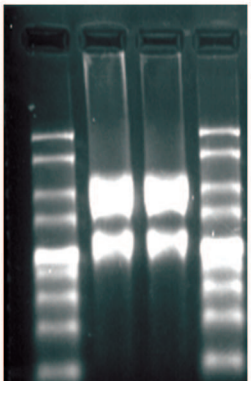
Fisher BioReagents* MOPS 10X Buffer for Agarose RNA Electrophoresis

Convenient, easy to use 10X concentrated solution

A low ionic strength buffer used for electrophoretic separation of formaldehyde-denatured RNA.

- Easy to dilute solution, pH 7.0
- One-year shelf life
- 0.2-micron filtered
- RNase and DNase free
- Available in 500mL and 1L sizes, both in poly translucent bottles

Quantity	Cat. No.	MFR No.
500mL	1065-5025	BP2900-500
1L	1023-6694	BP2900-1



Lanes 2 and 3 demonstrate the electrophoresis of 1µg of purified RNA from E. coli, *resolved on a 1.5% denaturing formaldehyde-agarose gel, using the MOPS 10X Buffer (BP2900), diluted to 1X as a running buffer. Lanes 1 and 4 contain a 1kb RiboLadder RNA standard (BP2811-50). Electrophoresis was performed at 100V for 70 min., and the gel was stained with ethidium bromide (BP1302-10).*

Fisher BioReagents SurePrep* Urine Exfoliated Cell RNA Purification Kit

Rapid method for the isolation and purification of total RNA from exfoliated cells that have been shed into the urine from the urinary tract

- Fast and easy processing using rapid spin-column format
- Isolate total RNA, from large mRNA down to microRNA (miRNA)
- RNA can be isolated and detected from as little as 100 exfoliated cells
- Isolate high quality total RNA from urine
- No phenol or chloroform extractions

BP2803-50

APPLICATIONS: Purified RNA from urine exfoliated cells suitable for real time PCR, reverse transcription PCR, Northern blotting, RNase protection and primer extension, and expression array assays

INCLUDES: Lysis solution (40mL); Wash solution (22mL); RNA elution solution (6mL); Spin columns (50); Collection tubes (50); Elution tubes (1.7mL) (50); Product insert (1)

STORAGE CONDITIONS: All solutions should be kept tightly sealed and stored at room temperature. These reagents should remain stable for at least two years in their unopened containers.

Kit Specifications	
Column binding capacity	50µg
Volume of Urine Processed	1-50mL
Maximum Input of Exfoliated Cells	1 x 10^6 cells
Size of RNA Purified	All sizes, including small RNA (<200 nt)
Time to complete ten purifications	20 minutes
Average Yield	~1µg RNA per 1 x 10^5 cells (varies due to cell density of sample)

No. of Preps	Cat. No.	MFR No.
50	1060-8283	BP2803-50

Fisher BioReagents* SurePrep* RNA/DNA/Protein Purification Kit

Rapid method for the isolation and purification of total RNA, genomic DNA and proteins sequentially from a single sample of cultured animal cells, tissue samples, blood, bacteria, yeast, fungi or plants

The total RNA, genomic DNA and proteins are all column-purified using the same column. This kit is ideal for researchers who are interested in studying the genome, proteome and transcriptome of a single biological sample, such as studies of gene expression including gene silencing experiments or mRNA knockdowns, studies involving biomarker discovery, studies in epigenetics, and for characterization of cultured cell lines.

BP2802-50

- Fast and easy processing using rapid spin-column format
- All columns for RNA, DNA and protein purification provided
- Sequential isolation of nucleic acids and proteins from a single lysate, no need to split the lysate
- Isolate all sizes of RNA, including large mRNA and rRNA to microRNA (miRNA)
- Isolate high quality total RNA
- Isolate high quality genomic DNA with a molecular weight ≥ 30kb
- High yields of isolated proteins
- No phenol or chloroform extractions

APPLICATIONS: Purifed RNA, DNA and protein suitable for assays such as PCR, real time PCR, reverse transcription PCR, Northern blotting, RNase protection, expression array assays, DNA sequencing, Southern blotting, SNP analysis, SDS-PAGE and Western Blots

INCLUDES: Lysis solution (40mL); RNA wash solution (20mL); RNA elution solution (6mL); gDNA wash solution (15mL); gDNA elution buffer (15mL); Protein column regeneration buffer (30mL); Protein column activation and wash buffer (60mL); Protein pH binding buffer (4mL); Protein elution buffer (8mL); Protein neutralizer (2mL); Protein loading dye (2mL); Spin columns (50); Collection tubes (200); Product inserts (1)

STORAGE CONDITIONS: The Protein Loading Dye should be stored at -20°C upon arrival. All other solutions should be kept tightly sealed and stored at room temperature. These reagents should remain stable for at least one year in their unopened containers

Kit Specifications	
Column binding capacity	50µg for RNA
	20µg for DNA
	200µg for protein
Maximum column loading volume	600µL
Size of RNA Purified	All sizes, including small RNA (<200nt)
Size of DNA Purified	≥30kb
Maximum amount of starting material:	
Animal cells	3 × 10^6 cells
Animal tissues	25mg
Blood	100µL
Bacteria	1 × 10^9 cells
Yeast	1 x 10^8 cells
Fungi	50mg
Plant tissues	50mg
Time to complete ten purifications	30 minutes
Average Yields*	
HeLa Cells (1 x 10^6 cells)	15µg RNA
HeLa Cells (1 x 10^6 cells)	8µg DNA
HeLa Cells (1 x 10^6 cells)	150µg protein

** Average yields will vary depending upon a number of factors including species, growth conditions used and developmental stage.*

No. of Preps	Cat. No.	MFR No.
50	1056-2474	BP2802-50

SurePrep* Water RNA/DNA Purification Kit

For the rapid isolation of DNA/RNA from microorganisms in non-turbid water samples

packaging	Mfr. No
25 preps	**BP2814-25**

Maximum filter column loading volume	20 mℓ
Maximum spin column loading volume	650 µℓ
Maximum water input	100 mℓ
Elution volume	100 µℓ
safety	10 mℓ
Time to complete 10 purifications	45 min

Applications: Isolation and purification of total RNA and DNA simultaneously from all microorganisms found in environmental water samples, including bacteria, fungi, and algae.
Description: Rapid isolation of DNA/RNA from microorganisms in non-turbid water samples -Only three buffers are required to complete isolation of total DNA and RNA from all microorganisms found in water, including bacteria, fungi and algae; Complete column purification - The RNA and DNA are both column purified simultaneously using the same column; Fast and easy processing - Rapid spin column format allows for the isolation of both RNA and DNA in under 45 minutes; Isolate highly concentrated RNA and DNA - The purified RNA and DNA is eluted in low volumes, allowing for the direct use of the nucleic acid in downstream applications; Isolate a diversity of RNA species - All sizes of RNA are isolated, from large mRNA down to microRNA, without the use of phenol or chloroform
Components: Lysis solution (15mL); Enzyme incubation buffer (4mL); Nucleic acid elution buffer (4mL); Nucleic acid wash solution (11mL); Spin columns (25); Collection tubes (25); Elution tubes, 1.7mℓ (25); Bead tubes (25); Filter column, 0.45µm (25).
Recommended storage: RT

N-Methylpyrrolidinone

packaging		Mfr. No
4 ℓ	AmberGlass,EcoSafPak*	**BP1172-4**

C_5H_9NO
CAS: 872-50-4
MW: 99.13
H319, H315, H335, H360D

P201, P308+P313, P261, P302+P352, P280, P305+P351+P338

Assay (GC)	>=99.8%
Color (APHA)	<=20
IR	Conforms to standard
Optical Absorbance at 265nm	<=1.0
Optical Absorbance at 270nm	<=0.7
Optical Absorbance at 300nm	<=0.3
Optical Absorbance at 400nm	<=0.02
Titratable Base	<=0.001mEq/g
Water	<=0.05%

Recommended storage: RT
Also available in recyclable FisherPak* and NOWPak* containers. EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

4-Dimethylaminopyridine

Peptide Synthesis

packaging		Mfr. No
100 g	AmberGlass	**BP596-100**

$C_7H_{10}N_2$
CAS: 1122-58-3
MW: 122.17
EINECS: 214-353-5
H310, H314, H301

P280, P361, P302+P350, P301+P330+P331, P305+P351+P338, P310

Assay	>=99%
IR	Conforms to standard
Melting Point	108°-111°C

Applications: 4-Dimethylaminopyridine is a catalyst for several acylation reactions, especially in oligonucleotide synthesis.
Recommended Storage: RT
UN 2928; DOT Class 6.1:Poison

5-Bromo-2'-Deoxyuridine

Off-white Powder

packaging		Mfr. No
250 mg	AmberGlass	**BP2508-250**
500 mg	AmberGlass	**BP2508-500**
1 g	AmberGlass	**BP2508-1**
5 g	AmberGlass	**BP2508-5**

$C_9H_{11}BrN_2O_5$
CAS: 59-14-3
MW: 307.09
H335, H319, H341, H315

P281, P261, P302+P352, P280, P305+P351+P338

FTIR	Conforms to standard
Melting Point	183-193°C
UV/VIS: lambda max (H_2O)	279, (209)nm ± 3nm

Applications: 5-Bromo-2'-Deoxyuridine is a thymidine analog used as a mutagen in genetic research.
Recommended Storage: -20°C

8-Bromoadenine

Light Tan Powder

packaging		Mfr. No
100 mg	AmberGlass	**BP2507-100**
500 mg	AmberGlass	**BP2507-500**
1 g	AmberGlass	**BP2507-1**

$C_5C_4N_5Br$
CAS: 6974-78-3
MW: 213.97

EINECS: 230-225-1

Applications: 8-Bromoadenine is used in several biochemical research applications.
Recommended Storage: Store below 0° C, desiccate
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Acetic Acid, Glacial — Sequencing
Aldehyde-free

packaging		Mfr. No
500 mℓ	Glass	BP1185-500

$C_2H_4O_2$
CAS: 64-19-7
MW: 60.05
H226, H314

P280, P305+P351+P338, P302+P352, P304+P340, P210, P309+P311

Acetic Anhydride ($(CH_3CO)_2O$)	<=0.01%
Assay	>=99.7%
Chloride (Cl)	<=0.4ppm
Color (APHA)	<=10
Copper	<=0.1ppm
Dilution Test	To pass test
Heavy Metals (Pb)	<=0.5ppm
Impurities Reducing Dichromate	Not detected
Impurities Reducing Permanganate	Not detected
Iron	<=0.2ppm
Nickel	<=0.1ppm
Residue after evaporation	<=8ppm
Sulfate (SO_4)	<=0.4ppm
Titratable Base	<=0.0004mEq/g

Recommended storage: RT

Chloroform — Molecular Biology
Approx. 0.75% Ethanol as Preservative

packaging		Mfr. No
1 ℓ	AmberGlass,EcoSafPak*	BP1145-1

$CHCl_3$
CAS: 67-66-3
MW: 119.38
EINECS: 200-663-8

H302, H315, H351, H373
P281, P260, P301+P312, P302+P352

Acetone and Aldehyde	Not detected
Acid and Chloride	Not detected
Assay (GC)	>=99%
Color (APHA)	<=10
Density (at 25°C)	1.471-1.476g/mℓ
Fluorescence Background (as Quinine Sulfate)	To pass test
Free Chlorine	Not detected
Lead	<=0.05ppm
Optical Absorbance at 244nm	<=1.00
Optical Absorbance at 245nm	<=0.80
Optical Absorbance at 250nm	<=0.28
Optical Absorbance at 254nm	<=0.13
Peroxides	Not detected
Preservative (Ethanol)	0.5-1.0v/v%
Reactive Impurities with H_2SO_4	Not detected
Refractive Index (at 25°C)	1.4420-1.4450
Residue after evaporation	<=2ppm
Water	<=0.02%

EcoSafPak is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.*
Applications: Used in Phenol/Chloroform extractions to remove proteins from DNA or RNA samples.
Recommended storage: RT

Acetonitrile DNA Synthesis

packaging		Mfr. No
450 mℓ	AmberGlass	BP1170-450
4 ℓ	AmberGlass	BP1170-4

C_2H_3N
CAS: 75-05-8
MW: 41.04
EINECS: 200-835-2
H225, H319, H332, H302, H312

P280, P302+P352, P301+P312, P304+P340, P305+P351+P338, P210, P240

Assay (by GLC)	>=99.9%
Color (APHA)	<=10
Density (at 25°C)	0.775-0.780g/mℓ
Fluorescence Background (as Quinine Sulfate)	To pass test
IR	Conforms to standard
LC Gradient Suitability	To pass test
Optical Absorbance at 190nm	<=1.00
Optical Absorbance at 195nm	<=0.15
Optical Absorbance at 200nm	<=0.07
Optical Absorbance at 205nm	<=0.05
Optical Absorbance at 210nm	<=0.04
Optical Absorbance at 220nm	<=0.02
Optical Absorbance at 254nm	<=0.01
Refractive Index (at 25°C)	1.3405-1.3425
Residue after evaporation	<=1.0ppm
Titratable Acid	<=0.008mEq/g
Titratable Base	<=0.0006mEq/g
Water	<=10ppm

Also available in recyclable FisherPak and NOWPak* containers.*
Recommended storage: RT

Ethyl Acetate — Sequencing

packaging		Mfr. No
1 ℓ	AmberGlass,EcoSafPak*	BP1125-1

$C_4H_8O_2$
CAS: 141-78-6
MW: 88.11
EINECS: 205-500-4

H225, H319, H336, EUH066
P261, P280, P305+P351+P338, P210, P240

Assay (GC)	>=99.9%
Color (APHA)	<=10
Density (at 25°C)	0.893 to 0.895g/mℓ
Fluorescence Background (as Quinine Sulfate)	To pass test
Optical Absorbance at 255nm	<=1.00
Optical Absorbance at 260nm	<=0.15
Optical Absorbance at 270nm	<=0.025
Peroxides	Not detected
Reactive Impurities with H_2SO_4	Not detected
Refractive Index (at 25°C)	1.3680-1.3710
Residue after evaporation	<=10ppm
Titratable Acid	<=0.0009mEq/g
Water	<=0.02%

Applications: Solvent that is commonly used in DNA or peptide synthesis.
Recommended storage: RT
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Formic Acid
Aldehyde-free

Sequencing

packaging		Mfr. No
500 mℓ	PolyBottle	BP1215-500

CH_2O_2
CAS: 64-18-6
MW: 46.02
H226, H314
P280, P260,

P305+P351+P338,
P301+P330+P331,
P302+P352, P210

Acetic acid glacial min.	<=0.4%
Aldehyde (HCHO)	Not detected
Ammonium (NH_4)	<=0.005%
Assay (HCOOH w/w in H_2O)	>=88%
Chloride (Cl)	<=0.001%
Color (APHA)	<=15
Dilution Test	To pass test
Heavy Metals (Pb)	<=5ppm
Iron	<=5ppm
Residue after evaporation	<=0.002%
Sulfate (SO_4)	<=0.002%
Sulfite	To pass test

Recommended storage: RT

Methylene Chloride
Pentene Preservative

packaging		Mfr. No
4 ℓ	AmberGlass	BP1186-4

CH_2Cl_2
CAS: 75-09-2
MW: 84.93
EINECS: 200-838-9

H351
P280

Assay	>=99.9%
Boiling Range (1 drop to dryness)	<=1.0° incℓ. 39.8°C at 760mmHg
Color (APHA)	<=10
Density (at 25°C)	1.315-1.321g/mℓ
Fluorescence Background (as Quinine Sulfate)	<=1ppb
Free Halogens	To pass test
Optical Absorbance at 233nm	<=1.00
Optical Absorbance at 240nm	<=0.12
Optical Absorbance at 254nm	<=0.010
Refractive Index (at 25°C)	1.4200-1.4230
Residue after evaporation	<=1ppm
Titratable Acid (as HCl)	<=0.0003mEq/g
Water	<=25ppm

Recommended storage: RT
Also available in recyclable FisherPak* and NOWPak* containers.

N,N-Dimethylformamide Synthesis

packaging		Mfr. No
500 mℓ	AmberGlass,EcoSafPak*	BP1160-500
4 ℓ	AmberGlass	BP1160-4

C_3H_7NO
CAS: 68-12-2
MW: 73.09
H319, H312, H332, H360D,
H226

P301+P310, P302+P352,
P304+P340, P280,
P305+P351+P338, P210

Amines (as Dimethylamine)	<=5ppm
Assay (GC)	>=99.5%
Boiling Point	153.0° ±0.1°C
Boiling Range (1 drop to dryness)	2.0°C
Color (APHA)	<=15
Density (at 25°C)	0.942-0.946g/mℓ
IR	Conforms to standard
Optical Absorbance at 270nm	<=1.00
Optical Absorbance at 275nm	<=0.30
Optical Absorbance at 295nm	<=0.10
Optical Absorbance at 310nm	<=0.05
Optical Absorbance at 340-400nm	<=0.01
Residue after evaporation	<=0.005%
Titratable Acid	<=0.0005mEq/g
Titratable Base	<=0.003mEq/g
Water	<=0.03%

Recommended storage: RT
Also available in recyclable FisherPak*and NOWPak* containers. EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

n-Butyl Acetate

Sequencing

packaging		Mfr. No
500 mℓ	AmberGlass	BP1135-500

$C_6H_{12}O_2$
CAS: 123-86-4
MW: 116.16
EINECS: 204-658-1

H226, H336
P304+P340, P261, P210,
P240

Assay (GC)	>=99.5%
Boiling Range (1 drop to dryness)	<=1.0 °C
Color (APHA)	<=10
Density (at 25°C)	0.860-0.900 g/mℓ
Fluorescence Background (as Quinine Sulfate)	To pass test
Foreign Esters	Not detected
Optical Absorbance at 255nm	<=1.00
Optical Absorbance at 260nm	<=0.30
Optical Absorbance at 280nm	<=0.050
Reactive Impurities with H_2SO_4	Not detected
Refractive Index (at 25°C)	1.3890-1.3950
Residue after evaporation	<=10 ppm
Titratable Acid	<=0.003 meq/g
Water	<=0.05%

Applications: Solvent is commonly used in DNA or peptide synthesis.
Recommended storage: RT

n-Propanol
Peroxide-free
Sequencing

packaging		Mfr. No
500 mℓ	AmberGlass,EcoSafPak*	BP1130-500

C_3H_8O
CAS: 71-23-8
MW: 60.1
EINECS: 200-746-9
H225, H336, H318

P280, P305+P351+P338, P310, P261, P301+P312, P210, P240, P304+P340

Acidity (as Acetic Acid)	<=0.02%
Aldehyde (HCHO)	Not detected
Assay (GC)	>=99.5%
Boiling Range	96°-98°C
Color (APHA)	<=20
Density (at 25°C)	0.8016 ±0.005g/mℓ
Peroxides	Not detected
Residue after evaporation	<=0.01%

Also available in recyclable FisherPak and NOWPak* containers. EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.*
Applications: Used for extracting ethidium bromide from DNA samples.
Recommended storage: RT

Pyridine
Sequencing

packaging		Mfr. No
500 mℓ	AmberGlass,EcoSafPak*	BP1155-500

C_5H_5N
CAS: 110-86-1
MW: 79.1
EINECS: 203-809-9

H225, H312, H332, H302
P280, P302+P352, P304+P340, P210, P240

Ammonia	<=0.002%
Assay (GC)	>=99.5%
Boiling Point	115.3° ±0.1°C
Boiling Range (1 drop to dryness)	<=2.0°C
Chloride (Cl^-)	<=0.001%
Copper	To pass test (about 5ppm)
Impurities Oxidized by Permanganate	Not detected
Residue after evaporation	<=0.002%
Solubility in H_2O	To pass test
Sulfate (SO_4)	<=0.001%
Water	<=0.10%

Also available in recyclable FisherPak and NOWPak* containers. EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.*
Applications: Commonly used in automated synthesis protocols.
Recommended storage: RT

Tetrahydrofuran
Sequencing

packaging		Mfr. No
1 ℓ	AmberGlass,EcoSafPak*	BP1140-1

C_4H_8O
CAS: 109-99-9
MW: 72.11
EINECS: 203-726-8

H225, H319, H335, EUH019
P261, P233, P280, P305+P351+P338, P210, P240

Assay	>=99.9%
Color (APHA)	<=10 APHA
Fluorescence Background (as Quinine Sulfate)	To pass test
Optical Absorbance at 210nm	<=1
Optical Absorbance at 215nm	<=0.60
Optical Absorbance at 230nm	<=0.30
Optical Absorbance at 254nm	<=0.10
Peroxide	<=0.015%
Ref. index at 25°C	Inclusive between 1.4040-1.4070
Residue after evaporation	<=5 ppm
Water	<=0.02%

Applications: Commonly used in sequencing procedures.
Recommended storage: RT
Also available in recyclable FisherPak* and NOWPak* containers. EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

2′-Deoxyadenosine 5′-Triphosphate (dATP)
100mM Solution

packaging		Mfr. No
400 µℓ	PolyTube	BP2560-4

$C_{10}H_{14}N_5Na_2O_{12}P_3$
CAS: 1927-31-7
MW: 535.15
EINECS: 217-662-3

Base Purity	>=98% Deoxynucleoside
Identity	Conforms to Standard
Purity	>=98% Triphosphate
Pyrophosphate	Run and report

Applications: dATP high-purity solution is used in PCR, dideoxy sequencing, mutagenesis and cDNA synthesis.
Functionally tested in PCR.
High purity:> 98% triphosphate.
Supplied as 100mM solution in purified water (pH 7.5).
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.
UN 1845; DOT Class 9:Miscellaneous
recyclable material by an SFI certified supplier.

2′-Deoxyguanosine 5′-Triphosphate (dGTP)
100mM Solution

packaging		Mfr. No
400 µℓ	PolyTube	BP2561-4

$C_{10}H_{12}N_5Na_4O_{13}P_3$
CAS: 93919-41-6
MW: 594.99
EINECS: 300-026-5

Base Purity	>=98% Deoxynucleoside
Identity	Conforms to Standard
Purity	>=98% Triphosphate
Pyrophosphate	Run and Report

Applications: dGTP high-purity solution is used in PCR, dideoxy sequencing, mutagenesis and cDNA synthesis.
Functionally tested in PCR.
High purity:> 98% triphosphate.
Supplied as 100mM solution in purified water (pH 7.5).
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Fisher BioReagents* *ex*ACTG*ene** Complete PCR Kit and Core Reagent Sets

Optimized for routine PCR applications

- Generate reliable PCR products using all genomic and cDNA templates
- Provide clean and consistent PCR yields up to 10kb
- Offer excellent specificity for all PCR amplicons
- PCR-tested to ensure reliable, reproducible, high-performance reactions
- **Complete PCR Kit** includes positive controls for troubleshooting PCR parameters, color-coded reagent tubes for ease-of-use, and dual reaction buffers for extra flexibility in optimizing PCR reactions
- **Core Reagent Sets** provide an economical alternative for high quality PCR
- Kit components are also available separately

STORAGE CONDITIONS: Store at -20°C.

FB-6100

Description	Quantity	Cat. No.	MFR No.
Complete PCR Kit (250U *Taq* DNA Polymerase†, 10X Buffer A, 10X Buffer B, 25mM $MgCl_2$, dNTPs, three Control Primers, and DNA Template)	200 rxns	**1013-2913**	FB6100
Core Reagent Set A (*Taq* DNA Polymerase, 10X Buffer A, and dNTPs)	80 rxns	**1003-1603**	FB6210
	400 rxns	**1065-9933**	FB6225
Core Reagent Set B (*Taq* DNA Polymerase, 10X Buffer B, $MgCl_2$ and dNTPs)	80 rxns	**1077-4724**	FB6245
	400 rxns	**1007-1793**	FB6260
Individual Components			
Taq DNA Polymerase (5U/µL)	250U	**1042-0464**	FB6111
10X Buffer A (with $MgCl_2$)	1000µL	**1058-2975**	BP6112
10X Buffer B (without $MgCl_2$)	1000µL	**1053-3155**	BP6113
25mM $MgCl_2$	1000µL	**1067-9163**	BP6114
PCR Nucleotide Mix (10mM each dNTP)	200µL	**1057-3505**	BP2565-2K
Lambda DNA Template (1ng/µL)	100µL	**1030-8524**	BP6115
Control Primer 1 (20µM), 5'—GATGAGTTCGTGTCCGTACAACTG—3'	100µL	**1006-1553**	BP6116
Control Primer 2 (20µM), 5'—GGTTATCGAAATCAGCCACAGCGCC—3'	100µL	**1078-8135**	BP6117
Control Primer 3 (20µM), 5'—CCACATCCATACCGGGTTTCAC—3'	100µL	**1070-7034**	BP6118

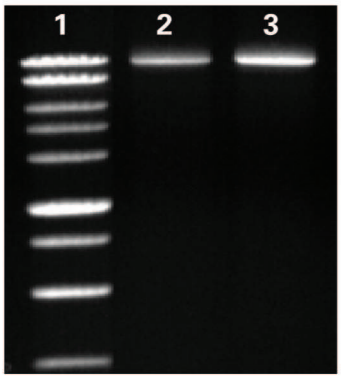
† Purchase of this product includes an immunity from suit under patents specified in the product insert to use only the amount purchased for the purchaser's own internal research. No other patent rights (such as 5' Nuclease Process patent rights) are conveyed expressly, by implication, or by estoppel. Further information on purchasing licenses may be obtained by contacting the Director of Licensing, Applied Biosystems, 850 Lincoln Centre Drive, Foster City, California 94404, USA.
‡ One reaction is defined as a 50µL PCR reaction using 1.25U Taq.

Fisher BioReagents* *ex*ACTG*ene** dNTPs

Ultrapure dNTPs ideal for use in PCR, DNA labeling, and DNA sequencing

- >99% triphosphate
- Chemically synthesized to meet a high purity standard
- Ensure consistent results and optimum sensitivity for many rigorous applications
- Tested for purity by HPLC, performance in long-template PCR, and absence of DNase, RNase, and protease activity to ensure dependable performance and lot-to-lot consistency
- Ultrapure dNTPs will enhance results for the following procedures: qPCR, high-fidelity PCR, long template (>8kb) PCR, RT-PCR, fluorescent sequencing, cDNA synthesis, Pyrosequencing*, and in vitro mutagenesis

STORAGE CONDITIONS: Store at -20°C.



Performance of ultrapure dNTPs in long template PCR. Impurities in PCR reagents can often inhibit PCR reactions. To demonstrate this effect, a 10kb fragment from Lambda DNA was amplified using *ex*ACTG*ene* PCR dNTP Mix (BP2595-200) (lane 3) and a competitor's standard dNTP mix of lower purity (lane 2).

Description	Concentration	Quantity	Cat. No.	MFR No.
dATP	100mM	250µL	**1060-8283**	BP2590-250
dCTP	100mM	250µL	**1071-7034**	BP2592-250
dGTP	100mM	250µL	**1031-6983**	BP2591-250
dTTP	100mM	250µL	**1060-7063**	BP2593-250
dNTP Mix	10mM soln. of dATP, dCTP, dGTP, and dTTP	200µL	**1037-7023**	BP2595-200
		1000µL	**1065-7623**	BP2595-1
dNTP Set	100mM	500µL of each	**1011-3483**	BP2594-500

This product is distributed for laboratory research use only. Under no circumstances may it be used for diagnostic purposes. The safety and efficacy of this product in diagnostic or other clinical uses has not been established.

UN 1845; DOT Class 9:Miscellaneous

2′-Deoxycytidine 5′-Triphosphate (dCTP)
100mM Solution

packaging		Mfr. No
400 µℓ	PolyTube	**BP2562-4**

$C_9H_{12}O_{13}N_3P_3Na_4$
CAS: 102783-51-7
MW: 554.98

Base Purity	>=98% Deoxynucleoside
Identity	Conforms to Standard
Purity	>=98% Triphosphate
Pyrophosphate	Run and Report

Applications: dCTP high-purity solution is used in PCR, dideoxy sequencing, mutagenesis and cDNA synthesis.
Functionally tested in PCR.
High purity:> 98% triphosphate.
Supplied as 100mM solution in purified water (pH 7.5).
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.
UN 1845; DOT Class 9:Miscellaneous

2′-Deoxythymidine 5′-Triphosphate (dTTP)
100mM Solution

packaging		Mfr. No
400 µℓ	PolyTube	**BP2563-4**

$C_{10}H_{13}O_{14}N_2P_3Na_4$
CAS: 18423-43-3
MW: 569.98

Base Purity	>=98% Deoxynucleoside
Identity	Conforms to Standard
Purity	>=98% Triphosphate
Pyrophosphate	Run and Report

Applications: dTTP high-purity solution is used in PCR, dideoxy sequencing, mutagenesis and cDNA synthesis.
Functionally tested in PCR.
Supplied as 100mM solution in purified water (pH 7.5).
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.
UN 1845; DOT Class 9:Miscellaneous

dNTP Set 4 tubes/pack
100mM Solutions (dATP, dCTP, dGTP, dTTP)

packaging		Mfr. No
1Set	PolyTube	**BP2564-1**
1Set	PolyTube	**BP2564-4**

Lambda max (pH 7.0)	267nm
Molar Absorbancy (Am) (at pH 7.0)	9.6 x 103

High-purity:> 98% triphosphate
Applications: dNTP Set consists of 100mM high-purity solutions of dATP, dCTP, dGTP, and dTTP for use in PCR, dideoxy sequencing, mutagenesis and cDNA synthesis.
Functionally tested in PCR.
Components: Supplied as 100mM solutions in purified water (pH 7.5)
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.
UN 1845; DOT Class 9:Miscellaneous

High-purity: > 98% triphosphate

PCR Nucleotide Mix
10mM solution of each dATP, dCTP, dGTP, dTTP

packaging		Mfr. No
200 µℓ	PolyMicroTube	**BP2565-2**
1 mℓ	PolyMicroTube	**BP2565-1**

Functional analysis	Pass Test

Applications: This premixed solution is used for PCR.
Supplied as 10mM solution in purified water (pH 7.5).
Functionally tested in PCR.
High purity:> 98% triphosphate.
[1927-31-7 (dATP)] ; [18423-43-3 (dTTP)] ; [93919-41-6 (dGTP)] ; [102783-51-7 (dCTP)]
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Mineral Oil
Clear, Viscous Liquid

packaging		Mfr. No
1 ℓ	PolyBottle,EcoSafPak*	**5398F**

CAS: 8012-95-1
EINECS: 232-384-2

Appearance	Clear, colorless, viscous liquid
DNase	None detected
Identification	Pass test
Limit of Polynuclear Compounds	Pass test
Neutrality	Pass test
Protease	None detected
Readily Carbonizable Substances	Pass test
RNase	None detected
Specific Gravity (at 25°C)	0.818-0.880
USP Protocol required	Pass test
Viscosity (at 40°C)	Not more than 33.5cs

Applications: Mineral Oil can be used in PCR applications.
Recommended Storage: RT

Taq DNA Polymerase

packaging		Mfr. No
100 units	Poly Tube	**FB6000-10**
5 x 100 units	Poly Tube	**FB6000-15**
500 units	Poly Tube	**5421E**
5 x 500 units	Poly Tube	**FB6000-30**
2500 units	Poly Tube	**FB6000-35**
100 units	Poly Tube	**5421K**
5 x 100 units	Poly Tube	**FB6000-50**
500 units	Poly Tube	**FB6000-60**
5 x 500 units	Poly Tube	**FB6000-65**
25 x 100 units	Poly Tube	**FB6000-20**
5 x 2500 units	Poly Tube	**FB6000-40**
25 x 100 units	Poly Tube	**FB6000-55**
2500 units	Poly Tube	**FB6000-70**
5 x 2500 units	Poly Tube	**FB6000-75**

CAS: 9012-90-2

Tested for ..... human genomic DNA using primers for the p53 gene.

Applications: Taq DNA Polymerase is a recombinant enzyme that is licensed for use in PCR. Provides superior performance in routine PCR and RT-PCR. Capable of amplifying large DNA target regions (up to 10kb). Well-suited for the following PCR applications:STR, RAPD, AFLP, and SNP analyses.
Description: Taq DNA Polymerase is a thermostable enzyme of approximately 94kDa size which was isolated originally from Thermus aquaticus. Replicates DNA optimally at 72°C and has a half-life of 40 minutes at 95°C allowing up to 45-50 thermal cycles without appreciable loss of enzyme activity.
The enzyme catalyzes the polymerization of nucleotides into double-stranded DNA in the 5'->3' direction in the presence of magnesium and it also has a 5'->3' exonuclease activity.
Source: Escherichia coli carrying a recombinant plasmid that encodes the T. aquaticus DNA polymerase gene.
Storage Buffer: 50mM Tris-HCl (pH 7.5), 0.1mM EDTA, 5mM DTT, added stabilizers, and 50% glycerol.
10X Buffer A: Supplied. Contains 500mM KCl, 15mM MgCl2, and 100mM Tris-HCl (pH 9.0 at 25°C).
10X Buffer B: Supplied. Contains 500mM KCl and 100mM Tris-HCl (pH 9.0 at 25°C). MgCl2 supplied separately.
Concentration: 5000 units/mℓ
Unit Definition: One unit catalyzes the incorporation of 10 nmole of total nucleotide into acid-insoluble product in 30 minutes at 70°C utilizing M13mp18 DNA as template.
Recommended Storage: -20°C

4-Chloro-1-naphthol
Crystalline Powder

packaging		Mfr. No
50 g	PolyBottle	**BP1550-50**

$C_{10}H_7ClO$ P261, P302+P352, P280, P305+P351+P338
CAS: 604-44-4
MW: 178.62
H335, H319, H315

Assay (GC) ..... >=98%
IR ..... Conforms to standard
Melting Point ..... 120°C ±3°C

Applications: 4-Chloro-1-naphthol is a chromogenic substrate for Horseradish Peroxidase used in immunostaining, ELISA, and EIA.
Recommended Storage: -20°C

5-Bromo-4-chloro-3-indolyl Phosphate, p-Toluidine Salt
White to Off-white Powder

packaging		Mfr. No
100 mg	AmberGlass	**BP1610-100**
500 mg	AmberGlass	**BP1610-500**

$C_{15}H_{15}BrClN_2O_4P$ EINECS: 229-506-1
CAS: 6578-06-9
MW: 433.61

Assay ..... >=99%
Lambda Max. (2mg in 100mℓ of 0.1N NaOH) ..... 289nm ±2nm
Protease ..... Not detected
TLC ..... To pass test

Applications: BCIP is used in conjunction with Nitro Blue Tetrazolium (NBT) in the colorimetric detection of Alkaline Phosphatase. It is suitable for use in immunohistochemistry, immunoblot staining, and ELISA applications.
Recommended Storage: <0°C

Bovine Serum Albumin (Fraction V)
Cold-ethanol Precipitated

packaging		Mfr. No
100g	PolyBottle	**BP1605-100**

CAS: 9048-46-8

Heavy Metals (Pb) ..... <=10ppm
pH (1% Solution in 0.9% NaCl) ..... 7.0 ±0.3
Protease ..... Not Detected
Protein ..... >96%
Purity (albumin) ..... >98%
Solubility (0.4g/10mℓ H_2O) ..... Clear and haze-free
Sulfated ash ..... <=2%
Water Content ..... <5%

Applications: Cold-ethanol Precipitated Bovine Serum Albumin is used as a stabilizer for enzymes or enzymatic reactions, or as a blocker of nonspecific sites.
Recommended Storage: 4°C

Bovine Serum Albumin (Fraction V)
Heat-shock Treated

packaging		Mfr. No
100g	PolyBottle	**BP1600-100**

CAS: 9048-46-8

Heavy Metals (Pb) ..... <=10ppm
Loss on Drying (at 105°C) ..... <=5%
pH (1% Solution in 0.9% NaCl) ..... 7.0 ±0.3
Protein ..... >96%
Purity (albumin) ..... >98%
Solubility (0.4g/10mℓ H_2O) ..... Clear and haze-free
Sulfated ash ..... <=2%
Water Content ..... <5%

Applications: Heat-shock Treated Bovine Serum Albumin is suitable for immunological studies.
Recommended Storage: 4°C

Bovine Serum Albumin (BSA) — Microbial Grade

packaging		Mfr. No
100 g	Poly Bottle	**BP9700-100**

CAS: 9048-46-8

Appearance	Beige powder
Heavy metals (as Pb)	<=20 ppm
Loss on Drying (at 105°C)	<=6
pH (1% in 0.15M NaCl)	Inclusive between 6.8-7.2
Protein	>=95%
Purity (albumin)	>=95%
Sulfated ash	<=2%

Applications: Immunological studies, Blocking non-specific sites
Description: Purified by a modified cold ethanol procedure.
Recommended storage: 4°C

Bovine Serum Albumin (BSA) — Low Endotoxin Powder

packaging		Mfr. No
100 g	Poly Bottle	**BP9705-100**

CAS: 9048-46-8

Appearance	Beige to slightly yellow powder
Endotoxin	<=1.0 EU/mg
Heavy metals (as Pb)	<=20 ppm
Loss on Drying (at 105°C)	<=5
pH (1% in 0.15M NaCl)	Inclusive between 6.5-7.5
Purity (albumin)	95%
Sulfated ash	<=2%

Applications: Immunological studies, Blocking non-specific sites
Description: Purified by a heat shock process with additional treatments; Endotoxin: <=0.1 EU/mg.
Recommended storage: 4°C

Bovine Serum Albumin (BSA) — DNase- and Protease-Free Powder

packaging		Mfr. No
100 g	Poly Bottle	**BP8805-100**

CAS: 9048-46-8

Appearance	Pale Yellow Flakes
Bioburden	<100 CFU/g
DNase	Not detected
pH (1% in 0.15M NaCl)	6.4-7.4
Protease	Not detected
Purity (albumin)	>=97%
RNase	Not detected

Applications: Immunological studies, Blocking non-specific sites
Description: Purified by proprietary heat shock process.
Recommended storage: 4°C

Bovine Serum Albumin (BSA) — Protease-Free Powder

packaging		Mfr. No
100 g	Poly Bottle	**BP9703-100**

CAS: 9048-46-8

Appearance	Off-white crystalline powder
Heavy metals (as Pb)	=<10 ppm
Loss on Drying (at 105°C)	<=5
pH (1% in 0.15M NaCl)	Inclusive between 6.8-7.2
Protein	>=96%
Purity (albumin)	>=98%
Sulfated ash	<=2%

Applications: Immunological studies, Blocking non-specific sites
Description: Purified by a heat shock process; Protease-Free.
Recommended storage: 4°C

Bovine Serum Albumin (BSA) — Fatty Acid-Free Powder

packaging		Mfr. No
100 g	Poly Bottle	**BP9704-100**

CAS: 9048-46-8

Appearance	Beige to slightly yellow powder
Free fatty acids	<=0.02%
Loss on Drying (at 105°C)	<=5
pH (1% in 0.15M NaCl)	Inclusive between 6.5-7.5
Protein	>=96%
Purity (albumin)	>=98%
Sulfated ash	<=3%

Applications: Immunological studies, Blocking non-specific sites
Description: Purified by a heat shock process with additional treatments; Fatty Acids: <=0.02%.
Recommended storage: 4°C

Sulfosalicylic Acid Dihydrate
Fine White Crystals

packaging		Mfr. No
500 g	AmberGlass	**BP177-500**

$C_7H_6O_6S.2H_2O$
CAS: 5965-83-3
MW: 254.22
H314, H302

P301+P330+P331, P280, P305+P351+P338, P310, P303+P361+P353

Assay	99.0-101.0%
Chloride (Cl)	<=0.001%
Heavy Metals (Pb)	<=0.002%
Insoluble matter	<=0.02%
Iron	<=0.001%
Residue after ignition	<=0.1%
Salicylic Acid (HOC_6H_4COOH)	<=0.04%
Sulfate (SO_4)	To pass test (about 0.02%)

Applications: Sulfosalicylic Acid is used for fixing proteins in agarose and polyacrylamide gels.
Recommended Storage: RT
UN 2585; DOT Class 8:Corrosive

p-Nitrophenyl Phosphate Disodium Salt, Hexahydrate

packaging		Mfr. No
500 mg	AmberGlass	BP2534-500
1 g	AmberGlass	BP2534-1
5 g	AmberGlass	BP2534-5
10 g	AmberGlass	BP2534-10
50 g	AmberGlass	BP2534-50

$C_6H_4NNa_2O_6P.6H_2O$ EINECS: 224-246-5
CAS: 4264-83-9
MW: 371.13

Assay ..... >99%
description ..... Pale Yellow Crystalline Powder
Free p-Nitrophenol 0.005%
Water Content (Hexahydrate) 27-31%

Applications: p-Nitrophenyl Phosphate is suitable for use as a substrate for alkaline and acid phosphatase.
Recommended Storage: Store below 0°C

2.2,2-Trifluoroethanol — Peptide Synthesis

packaging		Mfr. No
100 mℓ	AmberGlass	BP622-100

$C_2H_3F_3O$
CAS: 75-89-8
MW: 100.04
EINECS: 200-913-6
H226, H315, H318, H302,
H312, H332, H361f
P280, P301+P351+P338, P310, P302+P352, P301+P312, P304+P340, P210

Assay ..... >=99%
Boiling Range ..... 74°-78°C
Water ..... <=0.1%

Applications: Trifluoroethanol is often used in peptide synthesis procedures.
Recommended Storage: RT
UN 1992; DOT Class 3:Flammable Liquid

Cacodylic Acid
Crystalline

packaging		Mfr. No
100 g	PolyBottle/PoisonPack	BP324-100

$C_2H_7AsO_2$
CAS: 75-60-5
MW: 138.01
EINECS: 200-883-4
H331, H301, H410
P301+P310, P304+P340, P273

Assay (dry basis) ..... >=99%
IR ..... Conforms to standard
Melting Point ..... 195°-196°C
Solubility (10g/100mℓ H_2O) ..... Clear and colorless

Applications: Cacodylic Acid is used in buffers for DNA sequencing and recombinant DNA procedures.
Recommended Storage: RT
UN 1572; DOT Class 6.1:Poison

Dansyl Chloride
Crystalline (Yellow)

packaging		Mfr. No
1 g	AmberGlass	BP427-1

$C_{12}H_{12}ClNO_2S$
CAS: 605-65-2
MW: 269.75
H302, H314, EUH029
P301+P330+P331, P280, P305+P351+P338, P310, P402+P404, P301+P312

Assay ..... >=99.0%

Applications: Dansyl Chloride is a fluorochrome useful in the detection of N-terminal amino acids in proteins and peptides.
It is also used in the preparation of fluorescent derivatives of amino acids.
Recommended Storage: 0°C
UN 1759; DOT Class 8:Corrosive

N,N'-Diisopropylcarbodiimide — Peptide Synthesis

packaging		Mfr. No
100 mℓ	AmberGlass	BP590-100

$C_7H_{14}N_2$
CAS: 693-13-0
MW: 126.2
H226, H315, H317, H335,
H330, H334, H318
P305+P351+P338, P310, P260, P280, P302+P352, P210

Assay ..... >=99%
Boiling Point ..... 147°-149°C
Color (APHA) ..... <=100
IR ..... Conforms to standard
Refractive Index (at 20°C) ..... 1.4330 ±0.0015

Applications: N,N'-Diisopropylcarbodiimide is used as an alternative to dicyclohexylcarbodiimide in peptide synthesis reactions.
Recommended Storage: RT
UN 1993; DOT Class 3:Flammable Liquid (n.o.s.)

N,N-Diisopropylethylamine — Peptide Synthesis

packaging		Mfr. No
500 mℓ	AmberGlass	BP592-500

$C_8H_{19}N$
CAS: 7087-68-5
MW: 129.24
EINECS: 230-392-0
H225, H302, H314, H412
P301+P330+P331, P305+P351+P338, P280, P308+P313, P273, P210

Assay ..... >=99%
Color (APHA) ..... <=20
IR ..... Conforms to standard
Refractive Index (at 25°C) ..... 1.4133 ±0.002
Water (Karl Fischer) ..... <=0.2%

Applications: N,N-Diisopropylethylamine is commonly used in peptide synthesis reactions.
Recommended Storage: RT
UN 1993; DOT Class 3:Flammable Liquid (n.o.s.)

N-Methylmorpholine — Peptide Synthesis

packaging		Mfr. No
500 mℓ	AmberGlass	BP610-500

$C_5H_{11}NO$
CAS: 109-02-4
MW: 101.15
EINECS: 203-640-0
H225, H314, H312, H332, H302

P301+P330+P331, P305+P351+P338, P310, P302+P352, P304+P340, P210, P240, P280

Assay (GC)	>=99.0%
Boiling Range (ACS)	114°-116°C

Applications: N-Methylmorpholine is used in peptide synthesis protocols.
Recommended Storage: RT
UN 2535; DOT Class 3:Flammable Liquid

Triethylamine — Peptide Synthesis

packaging		Mfr. No
500 mℓ	AmberGlass	BP616-500

$C_6H_{15}N$
CAS: 121-44-8
MW: 101.19
EINECS: 204-469-4
H225, H311, H302, H332, H314, H335

P280, P302+P350, P305+P351+P338, P304+P340, P308+P313, P261, P210

Assay	>=99%
Refractive Index (at 2°C)	1.400±0.003

Applications: Triethylamine is used as a solvent in automated synthesis protocols.
Recommended Storage: RT

p-Nitrophenol — Peptide Synthesis
Yellow Crystals or Powder

packaging		Mfr. No
1 kg	AmberGlass	BP612-1

$C_6H_5NO_3$
CAS: 100-02-7
MW: 139.11
EINECS: 202-811-7

H373, H302, H312, H332
P280, P304+P340, P302+P352, P260

Assay (GC)	>=99%
Melting Point	112°-114°C

Applications: Nitrophenol is commonly used in peptide synthesis procedures.
Recommended Storage: RT
UN 1663; DOT Class 6.1:Poison

Trifluoroacetic Acid — Peptide Synthesis Grade

packaging		Mfr. No
500 mℓ	AmberGlass	BP618-500

$C_2HF_3O_2$
CAS: 76-05-1
MW: 114.02
EINECS: 200-929-3
H314, H332, H412

P301+P330+P331, P280, P305+P351+P338, P310, P273, P304+P340

Assay	>=99.5%
Chloride (Cl)	<=5ppm
Fluoride	<=14ppm
Sulfate (SO_4)	<=2ppm
UV Absorbance at 275nm	<=0.06
UV Absorbance at 300nm	<=0.03
Water	<=0.02%

Applications: Trifluoroacetic acid is used in peptide sythesis and sequencing protocols.

Sodium Cacodylate Trihydrate
White Crystals or Crystalline Powder

packaging		Mfr. No
50 g	PolyBottle/PoisonPack	BP325-50

$C_2H_6AsNaO_2.3H_2O$
CAS: 6131-99-3
MW: 214.03
H331, H410, H301, H350

P301+P310, P201, P308+P313, P304+P340, P273

Assay	>=97%
Loss on Drying (at 105°C)	25%±2%
pH of 5% Solution (at 25°C)	8.0 to 9.0
Solubility in H_2O (5g/100mL)	Clear and colorless

Applications: Sodium Cacodylate is a component of the DMS reaction buffer in Maxam-Gilbert sequencing and is also used as a buffer in terminal transferase reactions.
Recommended Storage: RT
UN 1688; DOT Class 6.1:Poison

4-Methylumbelliferyl Phosphate Disodium Salt
Off-white Powder

packaging		Mfr. No
25 mg	AmberGlass	BP2666-250

$C_{10}H_7Na_2O_6P.3H_2O$
CAS: 22919-26-2
MW: 354.16

EINECS: 245-325-0

FTIR	Conforms to Standard
Loss on drying	16%
Melting Point	193°-203°C
Purity	>=97%

Applications: 4-Methylumbelliferyl Phosphate is a biochemical substrate for membrane-bound phosphodiesterases.
Recommended Storage: Store below 0°C

α-Cyclodextrin
White Powder

packaging		Mfr. No
5 g	AmberGlass	**BP2501-5**
25 g	AmberGlass	**BP2501-25**

$C_{36}H_{60}O_{30}$ EINECS: 233-007-4
CAS: 10016-20-3
MW: 972.9

Loss on drying	<=13%
Optical Rotation (c = 1, H_2O)	+148° ±5°

Applications: α-Cyclodextrin is used in chromatographic separations and purification methods. Useful for selective precipitation of enantiomeric, positional or structural isomers.
Recommended Storage: RT

β-Mercaptoethylamine Hydrochloride
White Powder

packaging		Mfr. No
5 g	AmberGlass	**BP2664-5**
25 g	AmberGlass	**BP2664-25**
100 g	AmberGlass	**BP2664-100**

$C_2H_7NS.HCl$ P261, P301+P312, P302+P352, P280, P305+P351+P338
CAS: 156-57-0
MW: 113.61
EINECS: 205-858-1
H315, H319, H302, H335

Assay	98%
FTIR	Conforms to Standard
Melting Point	58°-73°C

Applications: β-Mercaptoethylamine HCl is used as an antioxidant in several biochemical procedures.
Recommended Storage: 4°C, desiccate

Forskolin From Coleus forskohlii
Off-white Powder

packaging		Mfr. No
1 mg	Amberglass	**BP2520-1**
5 mg	AmberGlass	**BP2520-5**
10 mg	AmberGlass	**BP2520-10**
25 mg	AmberGlass	**BP2520-25**
50 mg	AmberGlass	**BP2520-50**

$C_{22}H_{34}O_7$ H312
CAS: 66575-29-9 P280, P302+P352
MW: 410.5
EINECS: 266-410-9

Applications: Forskolin is a molecular biology reagent.
Forskolin functions as an antihypertensive and vasodilator.
Adenylcyclase activator.
Recommended Storage: RT, desiccate
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Polyvinylpyrrolidone

packaging		Mfr. No
100 g	PolyBottle	**BP431-100**
500 g	PolyBottle	**BP431-500**

$(C_6H_9NO)n$
CAS: 9003-39-8

Arsenic	<=0.0002%
Ash	<=0.05%
Assay (dry basis)	>=95%
Heavy Metals (Pb)	<=0.001%
pH (5% in H_2O at Room Temperature)	3.0-7.0
Viscosity (at 23°C)	1.2 to 1.3 Centistokes

Applications: Polyvinyl Pyrrolidone is a component of Denhardt's Reagent, commonly used in nucleic acid hybridization procedures.
Average Molecular Wt.:40.000
Recommended Storage: RT

Protease
From S. aureus, strain V8

packaging		Mfr. No
5 mg	AmberGlass	**BP2674-5**

CAS: 9001-92-7

Guaranteed analysis
Activity ..... From S. aureus, strain V8

Applications: Protease is an enzyme that will cleave peptide bonds on the carboxyl-terminal side of either aspartate or glutamate residues.
Unit Definition: One unit will change A280nm 0.001 per minute at 37°C, pH 7.8, using casein as the substrate.
Activity:500 units/mg
Recommended Storage: -20°C

Pyridoxal 5-Phosphate Monohydrate
Off-white Crystalline Powder

packaging		Mfr. No
1 g	AmberGlass	**BP2676-1**
5 g	AmberGlass	**BP2676-5**
25 g	AmberGlass	**BP2676-25**

$C_8H_{10}NO_6P$ EINECS: 200-208-3
CAS: 54-47-7
MW: 247.14

FTIR	Conforms to standard
Purity	98%

Applications: Pyridoxal 5-Phosphate is useful for modifying lysyl and valyl residues in proteins.
Recommended Storage: Store below 0°C

Sorbitol

packaging		Mfr. No
500 g	AmberGlass	**BP439-500**

$C_6H_{14}O_6$ EINECS: 200-061-5
CAS: 50-70-4
MW: 182.17

Arsenic	<=3ppm
Assay	91.0-100.5%
Chloride (Cl)	<=0.005%
Heavy Metals (as Pb) (USP method)	<=0.001%
Reducing Sugars	To pass test
Sulfate (SO_4)	<=0.01%
Total Sugar	To pass test

Applications: Sorbitol is used in the preparation of isoelectric focusing gels.
Recommended Storage: RT

Yeast DNA PFGE Markers

packaging		Mfr. No
5 blocks	PolyMicroTube	**BP2659-40**

Applications: For sizing DNA molecules from 225kb-1.9Mb.
Consists of the 16 chromosomes of Saccharomyces cerevisiae YNN295.
Supplied in 100µℓ agarose (0.5%) blocks in 1% lauroyl sarcosine, 0.5M EDTA (pH 9.0); each block contains 3µg DNA from 2 x 105 cells.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Pyridoxal Hydrochloride
Off-white Powder

packaging		Mfr. No
1 g	AmberGlass	**BP2675-1**
5 g	AmberGlass	**BP2675-5**
25 g	AmberGlass	**BP2675-25**
100 g	AmberGlass	**BP2675-100**

$C_8H_9NO_3.HCl$
CAS: 65-22-5
MW: 203.62

FTIR	Conforms to standard
Melting Point	170°-180°C
pH (0.1% aqueous solution)	2.7-3.5
Solubility Test (0.1% aqueous solution, 15 min.)	Clear, colorless solution
UV/VIS lambda max (water)	253-5, 290-1, 316-8nm

Applications: Pyridoxal Hydrochloride is useful for labeling amino acids and for their detection in the picomole range.
Recommended Storage: 0°C, desiccate, protect from light.

Acrylamide Solution 40%
Electrophoresis

packaging		Mfr. No
1 ℓ	AmberGlass	**BP1402-1**

C_3H_5NO H350, H302, H340, H317, H361f
CAS: 79-06-1 P280, P312, P302+P350,
MW: 71.08 P201, P308+P313,
H315, H319, H372, H311, P260

Acrylic Acid	<=0.003%
Conductivity (at 25°C)	<=5µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
pH (at 25°C)	6.5 ±0.5
Protease	Not detected
RNase	Not detected

Applications: 40% Acrylamide Solution is made from 3X recrystallized acrylamide and is suitable for electrophoretic separation of proteins and nucleic acids.
BP1402 is made from Acrylamide that meets BP170 specifications.
Recommended Storage: 4°C
UN 2810; DOT Class 6.1:Poison

Acrylamide
Electrophoresis
White, Needle-like Crystals

packaging		Mfr. No
100 g	PolyBottle	**BP170-100**
500 g	PolyBottle	**BP170-500**
5 kg	PolyPail	**BP170-5**

C_3H_5NO P301+P310, P280,
CAS: 79-06-1 P302+P350, P201,
MW: 71.08 P308+P313, P260,
H315, H319, H301, H317, P304+P340, P305+P351+P338
H332, H350, H340, H372,
H361f, H312

Acrylic Acid	<=0.002%
Appearance	To pass test
Arsenic	<=1ppm
Assay	>=99.9%
Conductivity of a 50% Solution	<=2.50µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
Insoluble in Methanol	<=0.005%
Insoluble in H_2O	<=0.005%
Iron	<=1ppm
Lead	<=1ppm
Mercury	<=1ppm
pH of 10% Solution in 0.1M NaCl	6.5±0.5
Protease	Not detected
RNase	Not detected

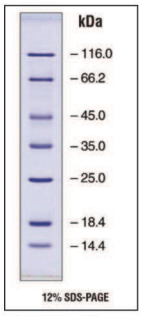
Applications: This Acrylamide is 3X recrystallized to obtain a high-purity crystalline material suitable for electrophoretic separation of proteins and nucleic acids.
Recommended Storage: RT
UN 2074; DOT Class 6.1:Poison

Fisher BioReagents* EZ-Run* Protein Marker

Mixture of seven purified proteins optimized to produce uniform, compact bands when analyzed by SDS-PAGE and stained with Coomassie* Blue

- Supplied in gel loading buffer for direct application to SDS-PAGE gels
- Ideal for molecular weight determination of polypeptides analyzed in various gel systems

STORAGE CONDITIONS: Store at -20°C.



BP3600-500

Purified proteins contained in Marker

Protein	Source	Molecular Weight (kDa)
β-galactosidase	*E. coli*	116.0
Bovine serum albumin	Bovine plasma	66.2
Ovalbumin	Chicken egg white	45.0
Lactate dehydrogenase	Porcine muscle	35.0
Restriction endonuclease *Bsp*981	*E. coli*	25.0
β-lactoglobulin	Bovine milk	18.4
Lysozyme	Chicken egg white	14.4

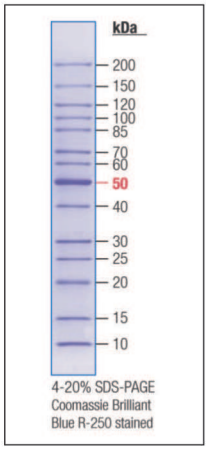
Molecular Weight Range	No. of Bands	Quantity	Cat. No.	MFR No.
14.4 to 116.0kDa	7	500µL (100 loadings)	**1070-4914**	BP3600-500
		2 × 500µL (200 loadings)	**1031-6323**	BP3600-1

Fisher BioReagents* EZ-Run* *Rec* Protein Ladder

Mixture of 14 highly purified recombinant proteins optimized for precise sizing of proteins by SDS-PAGE and Western blotting

- Ladder is ideal for precise molecular weight determination of polypeptides in denaturing PAGE and Western blots
- Each protein contains an integral Strep-tag* II sequence[1] and may be detected on Western blots using Strep-Tactin*-AP conjugate[2] or an antibody against Strep-tag II
- 50kDa protein band has greater intensity than other bands to serve as a reference
- Supplied in gel loading buffer

STORAGE CONDITIONS: Store at -20°C.



BP3602 Series

Molecular Weight Range	No. of Bands	Quantity	Cat. No.	MFR No.
10 to 200kDa	14	500µL (100 loadings)	**1054-2595**	BP3602-500
		2 × 500µL (200 loadings)	**1033-6693**	BP3602-1

[1] *Strep-tag technology for protein purification and detection is covered by U.S. Patent No. 5,506,121, U.K. Patent No. 2272698, and French Patent No. 93 13 006.*
[2] *Strep-Tactin is covered by U.S. Patent No. 6,103,493.*

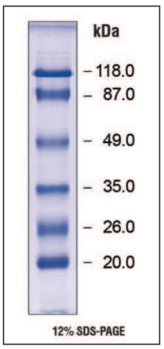
Fisher BioReagents* EZ-Run* Prestained Protein Marker

Ideal for monitoring protein separation during electrophoresis without staining and for verifying electroblotting of proteins onto membranes

- Comprised of six purified proteins covalently coupled to a blue chromophore
- Optimized to produce well-defined blue bands after SDS-PAGE
- Supplied in gel loading buffer

APPLICATIONS: The Prestained Protein Marker is designed for monitoring protein separation during electrophoresis without staining. It is also used to verify electroblotting of proteins onto membranes.

STORAGE CONDITIONS: Store at -20°C.



BP3601-1

NOTE: The covalently coupled chromophore affects protein mobility; this prestained marker should only be used for approximating the molecular weight of separated proteins.

Purified proteins contained in Marker

Protein	Source	Molecular Weight (kDa)
β-galactosidase	*E. Coli*	118.0
Bovine serum albumin	Bovine plasma	87.0
Ovalbumin	Chicken egg white	49.0
Lactate dehydrogenase	Bovine erythrocytes	35.0
β-lactoglobulin	Bovine milk	26.0
Lysozyme	Chicken egg white	20.0

Molecular Weight Range	No. of Bands	Quantity	Cat. No.	MFR No.
20 to 118kDa	6	500µL (100 loadings)	**1071-4914**	BP3601-500
		2 × 500µL (200 loadings)	**1040-8923**	BP3601-1

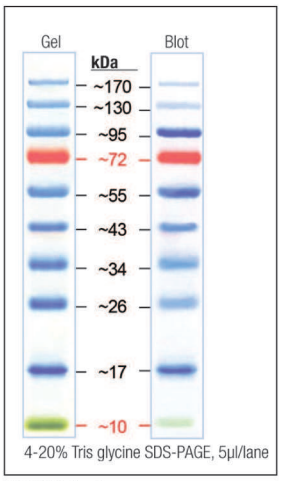
Fisher BioReagents* EZ-Run* Prestained *Rec* Protein Ladder

Comprised of 10 recombinant proteins covalently coupled to a blue chromophore plus 10 and 72kDa reference bands tagged with green and orange dyes, respectively

- Ladder is ideal for monitoring protein separation during SDS-PAGE, verifying Western transfer efficiency, and approximating the molecular weight of blotted proteins
- Supplied in gel loading buffer

STORAGE CONDITIONS: Store at -20°C.

NOTE: The covalently coupled chromophore affects protein mobility; this prestained marker should only be used for approximating the molecular weight of separated proteins.



BP3603 Series

This product is manufactured under the license for Strep-tag* technology covered by U.S. Patent No. 5,506,121; U.K. Patent No. 2272698; and French Patent No. 93 13 066.

Molecular Weight Range	No. of Bands	Quantity	Cat. No.	MFR No.
10 to 170kDa	10	500µL (100 loadings)	**1063-8393**	BP3603-500
		2 × 500µL (200 loadings)	**1078-5674**	BP3603-1

Fisher BioReagents* EZ-Run* Protein Gel Staining Solution

Ready-to-use solution for highly sensitive staining of proteins separated in polyacrylamide gels

EZ-Run Protein Gel Staining Solution contains Coomassie* Brilliant Blue G-250. Due to the property of the dye to form colloidal particles, proteins are preferentially stained without significant background staining of the gel matrix.

- Detection is linear over two orders of magnitude with as little as 5ng protein detected
- Sensitivity: 5ng BSA in 10% SDS-PAGE, 1.0mm thick gel, well width 3mm
- Does not contain toxic methanol or acetic acid
- Provides rapid destaining with simple water washes
- Can be reused twice without significant loss of sensitivity
- Tested for staining sensitivity in minigels using purified proteins and Protein Molecular Weight Standards

STORAGE CONDITIONS: Store at 4°C.

Quantity	Cat. No.	MFR No.
1L	**1078-6444**	BP3620-1
4L	**1060-9933**	BP3620-4

Fisher BioReagents* EZ-Run* Protein Gel Solutions

Resolution equal to or better than gradient precast gels!

A ready-to-use premixed solution of acrylamide, bisacrylamide, buffer, and SDS that enables ultra-fine resolution of protein bands by denaturing PAGE. This novel formulation provides the resolution of a gradient gel with less preparative work than a standard discontinuous gel system.

- Ready-to-pour EZ-Run Protein Gel Solution for 1-D or 2-D PAGE—just add APS and TEMED
- Wide separation range—from 3 to 200kDa on same minigel
- Continuous gel system—no stacking gel necessary
- Proprietary (patent-pending) gel chemistry

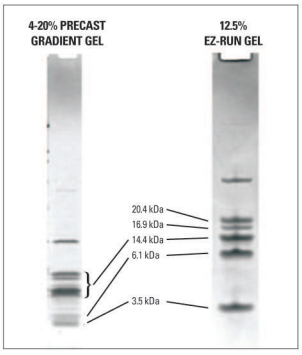
APPLICATIONS: Compatible with post-electrophoresis applications such as Western blotting, MALDI analysis, and protein sequencing. Suitable for all commonly used gel staining methods including Coomassie* blue, silver staining and fluorescent dyes.

STORAGE CONDITIONS: Store at room temperature.

NOTE: EZ-Run Protein Gel Solution comes with an optimized proprietary running buffer; other traditional SDS-PAGE buffers should not be used with the EZ-Run gel solution.

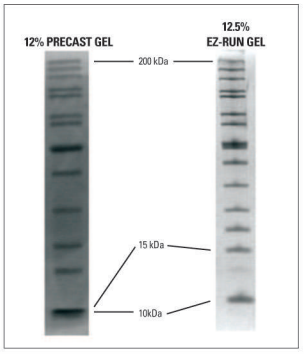
Product Specifications	
Appearance	Clear, colorless solution
Conductivity (1:20, water)	
10% Gel Solution	460-520uS
12.5% Gel Solution	460-510uS
15% Gel Solution	440-500uS
Electrophoresis	To pass test
pH (at 25°C)	6.8-7.2
Polymerization Time	30 minutes
Protease	Not detected

Description	Quantity	Cat. No.	MFR No.
10% EZ-Run Protein Gel Solution with buffer	30mL	**1044-7463**	BP7710-30
10% EZ-Run Protein Gel Solution with buffer	100mL	**1027-4673**	BP7710-100
10% EZ-Run Protein Gel Solution with buffer	500mL	**1028-4673**	BP7710-500
12.5% EZ-Run Protein Gel Solution with buffer	30mL	**1045-7463**	BP7712-30
12.5% EZ-Run Protein Gel Solution with buffer	100mL	**1046-9113**	BP7712-100
12.5% EZ-Run Protein Gel Solution with buffer	500mL	**1067-8393**	BP7712-500
15% EZ-Run Protein Gel Solution with buffer	100mL	**1067-8583**	BP7715-100
15% EZ-Run Protein Gel Solution with buffer	500mL	**1028-4913**	BP7715-500
EZ-Run Running Buffer 20X	500mL	**1036-6883**	BP7700-500



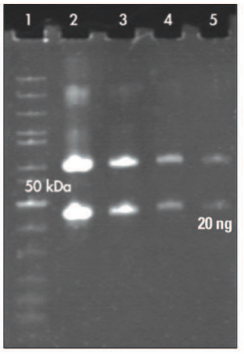
Resolution equal to or better than gradient precast gels!

EZ-Run Protein Gel Solution provides superior separation of closely spaced, small proteins (<20kDa) compared to a commercial gradient precast gel.



Separate wide range of protein sizes (3–200kDa) on the same minigel

The EZ-Run continuous gel system enables separation of small peptides and high MW proteins on the same minigel. For example, a commercial 12% precast discontinuous gel is not capable of resolving the 10 and 15kDa proteins compared to the 12% EZ-Run gel.



EZ-Run gel matrix compatible with common gel staining methods such as fluorescent dyes

Serial dilution of BSA (66kDa) and Ovalbumin (45kDa) are loaded in lanes 2 to 5 of an EZ-Run gel and detected with SYPRO® Ruby fluorescent protein stain. Protein standard in lane 1 is BP3602 EZ-Run Rec Protein Ladder.

Acrylamide: Bis-Acrylamide 19:1 — Electrophoresis
Powder

packaging		Mfr. No
100 g	PolyBottle	**BP1364-100**

Conductivity (30% aqueous solution)	<=10µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
Protease	Not detected
RNase	Not detected
Solubility (30% aqueous solution)	Clean and clear

Applications: This dry powder mix is premixed for 5% cross-linking and is suitable for DNA sequencing and separation of low-molecular-weight proteins.
BP1364 is made from Acrylamide and Bis-Acrylamide that meet BP170 and BP171 specifications, including being DNase-, RNase-, and Protease-free.
[79-06-1 (Acrylamide)] ; [110-26-9 (Methylene Diacrylamide)]
Recommended Storage: RT
UN 2074; DOT Class 6.1:Poison

Acrylamide: Bis-Acrylamide 19:1 — Electrophoresis
40% Solution

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1406-1**

H315, H319, H372, H311, H350, H302, H340, H317, H361f
P280, P312, P302+P350, P201, P308+P313,
P260

Conductivity (at 25°C)	<=10µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
Protease	Not detected
RNase	Not detected

Applications: This Acrylamide Solution is premixed for 5% cross-linking and is suitable for DNA sequencing and separation of low-molecular-weight proteins.
BP1406 is made from Acrylamide and Bis-Acrylamide that meet BP170 and BP171 specifications, including being DNase-, RNase-, and Protease-free.
[79-06-1 (Acrylamide)] ; [110-26-9 (Methylene Diacrylamide)]
Recommended Storage: 4°C
UN 2810; DOT Class 6.1:Poison

Acrylamide: Bis-Acrylamide 29:1 — Electrophoresis
Powder

packaging		Mfr. No
100 g	PolyBottle	**BP1366-100**

Conductivity (30% aqueous solution)	<=10µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
Protease	Not detected
RNase	Not detected
Solubility (30% aqueous solution)	Clean and clear

Applications: This dry powder mix is premixed for 3.3% cross-linking and is suitable for DNA sequencing and separation of proteins.
[79-06-1 (Acrylamide)] ; [110-26-9 (Methylene Diacrylamide)]
Recommended Storage: RT
UN 2074; DOT Class 6.1:Poison

Acrylamide: Bis-Acrylamide 29:1 — Electrophoresis
40% Solution

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1408-1**

H315, H319, H372, H311, H350, H302, H340, H317, H361f
P280, P312, P302+P350, P201, P308+P313,
P260

Conductivity (at 25°C)	<=10µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
Protease	Not detected
RNase	Not detected

Applications: This Acrylamide Solution is premixed for 3.3% cross-linking and is suitable for DNA sequencing and separation of proteins.
BP1408 is made from Acrylamide and Bis-Acrylamide that meet BP170 and BP171 specifications, including being DNase-, RNase-, and Protease-free.
[79-06-1 (Acrylamide)] ; [110-26-9 (Methylene Diacrylamide)]
Recommended Storage: 4°C
UN 2810; DOT Class 6.1:Poison

Acrylamide: Bis-Acrylamide 37.5:1 — Electrophoresis
Powder

packaging		Mfr. No
100 g	PolyBottle	**BP1368-100**

Conductivity (30% aqueous solution)	<=10µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
Protease	Not detected
RNase	Not detected
Solubility (30% aqueous solution)	Clean and clear

Applications: This dry powder mix is premixed for 2.6% cross-linking and is suitable for separation of high-molecular-weight proteins.
BP1368 is made from Acrylamide and Bis-Acrylamide that meet BP170 and BP171 specifications, including being DNase-, RNase-, and Protease-free.
[79-06-1 (Acrylamide)] ; [110-26-9 (Methylene Diacrylamide)]
Recommended Storage: RT
UN 2074; DOT Class 6.1:Poison

Acrylamide: Bis-Acrylamide 37.5:1 — Electrophoresis
40% Solution

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1410-1**

H315, H319, H372, H311, H350, H302, H340, H317, H361f
P280, P312, P302+P350, P201, P308+P313,
P260

Conductivity (at 25°C)	10µmhos/cm
DNase	Not detected
Electrophoresis	To pass test
Protease	Not detected
RNase	Not detected

Applications: This Acrylamide Solution is premixed for 2.6% cross-linking and is suitable for separation of high-molecular-weight proteins.
BP1410 is made from Acrylamide and Bis-Acrylamide that meet BP170 and BP171 specifications,including being DNase-, RNase-, and Protease-free.
[79-06-1 (Acrylamide)] ; [110-26-9 (Methylene Diacrylamide)]
Recommended Storage: 4°C
UN 2810; DOT Class 6.1:Poison

Agarose — IEF Grade
Isoelectric Focusing of Proteins

packaging		Mfr. No
10 g	PolyBottle	**BP163-10**
25 g	PolyBottle	**BP163-25**

$C_{12}H_{18}O_9$
CAS: 9012-36-6
MW: 306.12

EEO (-Mr)	Not detectable
Gel Strength	>500g/cm2
Gelation Temperature	<45°C
Moisture Content	<10%
Sulfate Content	<0.2%

Applications: Highly purified agarose for separating proteins by isoelectric focusing.
Recommended Storage: RT

Ammonium Persulfate — Electrophoresis
Colorless-to-white Crystals

packaging		Mfr. No
25 g	AmberGlass	**BP179-25**
100 g	AmberGlass	**BP179-100**

$H_8N_2O_8S_2$
CAS: 7727-54-0
MW: 228.19
EINECS: 231-786-5
H272, H334, H335, H315,
H317, H319, H302
P342+P311, P280,
P301+P312, P302+P352,
P305+P351+P338, P210

Assay	>=98.0%
Chloride and Chlorate (as Cl)	<=0.001%
Heavy Metals (Pb)	<=0.005%
Insoluble matter	<=0.005%
Iron	<=0.001%
Manganese	<=0.5ppm
Residue after ignition	<=0.05%
Titratable Free Acid	<=0.04mEq/g

Applications: Electrophoresis-grade Ammonium Persulfate is an initiator of acrylamide polymerization for the preparation of polyacrylamide electrophoresis gels.
Recommended Storage: RT
UN 1444; DOT Class 5.1:Oxidizer

Ammonium Sulfate

packaging		Mfr. No
1 kg	Glass	**BP212R-1**
2.5 kg	PolyBottle	**BP212-212**

$H_8N_2O_4S$
CAS: 7783-20-2
MW: 132.13

Arsenic	<=0.5ppm
Assay	>=99.5%
Heavy Metals (Pb)	<=5ppm
Iron	<=5ppm
Nitrate	<=0.001%
Optical Absorbance at 260nm	<=0.03
Optical Absorbance at 280nm	<=0.025
pH of 5% Solution (at 25°C)	5 to 6
Protease	Not detected
Residue on Ignition (sulfated)	<=0.005%

Applications: This enzyme-grade Ammonium Sulfate is suitable for use in the purification of proteins.
Recommended Storage: RT

Bis-Acrylamide Solution — Electrophoresis
2% w/v

packaging		Mfr. No
250 mℓ	AmberGlass	**BP1404-250**

$C_7H_{10}N_2O_2$
CAS: 110-26-9
MW: 154.17
EINECS: 203-750-9

Electrophoresis	To pass test

Applications: Bis-Acrylamide Solution is a cross-linker commonly used in the preparation of polyacrylamide electrophoresis gels.
BP1404 is made from Bis-Acrylamide that meets BP171 specifications.
Recommended Storage: 4°C

Bis-Acrylamide — Electrophoresis

packaging		Mfr. No
25 g	PolyBottle	**BP171-25**
100 g	PolyBottle	**BP171-100**

$C_7H_{10}N_2O_2$
CAS: 110-26-9
MW: 154.17
EINECS: 203-750-9
H319, H315, H335, H302,
H312, H332
P280, P302+P352,
P305+P351+P338, P261,
P270, P308+P313

Absorbance of a 1% Solution (at 290nm)	<=0.2
Assay	>=95%
DNase	Not detected
Electrophoresis	To pass test
pH of 1% Solution in 0.1M NaCl	>=5.0
Protease	Not detected
RNase	Not detected

Applications: Bis-Acrylamide is a cross-linker commonly used in the preparation of polyacrylamide electrophoresis gels.
Recommended Storage: 4°C

Brilliant Blue G-250

packaging		Mfr. No
25 g	AmberGlass	**BP100-25**
50 g	AmberGlass	**BP100-50**

$C_{47}H_{48}N_3NaO_7S_2$
CAS: 6104-58-1
MW: 854.02

$E^{1\%}_{1cm}$	>=600g-1cm-1
Lambda Max.	610nm ±2nm
Loss on Drying (at 105°C)	<=5%
Solubility	To pass test

Applications: General protein stain.
Recommended storage: RT
C.I. 42655

Brilliant Blue R-250

packaging		Mfr. No
25 g	mberGlass	**BP101-25**
50 g	AmberGlass	**BP101-50**

$C_{45}H_{44}N_3NaO_7S_2$
CAS: 6104-59-2
MW: 825.96

$E^{1\%}_{1cm}$	>=700g-1cm-1
Lambda Max.	592nm ±2nm
Loss on Drying (at 105°C)	<=5%
Solubility	To pass test

Applications: Staining proteins in polyacrylamide gels.
Recommended storage: RT
C.I. 42660

Glycine
White Crystals or Crystalline Powder

packaging		Mfr. No
500 g	PolyBottle	**BP381-500**
1 kg	PolyBottle	**BP381-1**
5 kg	PolyPail	**BP381-5**

$C_2H_5NO_2$ EINECS: 200-272-2
CAS: 56-40-6
MW: 75.07

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Chloride (Cl)	<=0.003%
Color of 10% Solution	<=10
Conductivity of 1.5% Solution	<=25µmhos/cm
Heavy Metals (Pb)	<=10ppm
Iron	<=7ppm
Loss on drying	<=0.20%
Optical Absorbance of 1M Solution (at 280nm)	<=0.1 AU
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%

Applications: Glycine is used in the preparation of Tris-Glycine electrophoresis buffers and culture media.
Recommended Storage: RT

Lithium Dodecyl Sulfate
Powder or Flakes

Molecular Biology

packaging		Mfr. No
5 g	PolyBottle	**BP1309-5**
25 g	PolyBottle	**BP1309-25**

$C_{12}H_{25}LiO_4S$
CAS: 2044-56-6
MW: 272.33
H228, H335, H302, H315, H332, H319

P261, P301+P312, P304+P340, P302+P352, P305+P351+P338, P233, P210

Absorbance of a 3% Solution at 230nm	<=0.3
Absorbance of a 3% Solution at 280nm	<=0.05
Absorbance of a 3% Solution at 405nm	<=0.01
Assay	>=99.0%
Heavy Metals (Pb)	<=5ppm
pH (at 25°C, 3% aqueous solution)	7.0±1.0
Phosphate (PO_4)	<=1ppm

Recommended storage: RT

MES
Fine White Crystals

packaging		Mfr. No
100 g	PolyBottle	**BP300-100**

$C_6H_{13}NO_4S$
CAS: 4432-31-9
MW: 195.24
EINECS: 224-632-3

H315, H335, H319
P280, P305+P351+P338, P261, P302+P352, P264, P271

Assay	>=98%
DNase	Not detected
Moisture	<=10%
PKa (at 25°C)	6.09±0.2
RNase	Not detected

Applications: This biological buffer has a usable pH range of 5.5 to 6.7.
Recommended Storage: RT

Ponceau S

packaging		Mfr. No
10 g	AmberGlass	**BP103-10**

$C_{22}H_{12}N_4Na_4O_{13}S_4$
CAS: 6226-79-5
MW: 760.54
H319, H335, H315

P261, P302+P352, P280, P305+P351+P338

$E^{1\%}_{1cm}$	>=350 g-1cm-1 min
Lambda Max.	514nm±2nm
Solubility	To pass test

Applications: Staining serum and plasma proteins on nitrocellulose and cellulose acetate membranes

Potassium Persulfate
Fine, Colorless-to-white Crystals

packaging		Mfr. No
100 g	PolyBottle	**BP180-100**

$K_2O_8S_2$
CAS: 7727-21-1
MW: 270.3
EINECS: 231-781-8
H272, H334, H302, H319, H335, H315, H317

P304+P341, P342+P311, P261, P301+P312, P302+P352, P280, P305+P351+P338, P210

Assay	>=99.0%
Chlorine Compounds (as Cl)	<=0.001%
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.005%
Iron	<=5ppm
Manganese	<=2ppm

Applications: Potassium Persulfate is a strong oxidizing agent and initiator of acrylamide polymerization. It can also be used as an initiator in the immobilization of cells and enzymes in an acrylamide matrix.
Recommended Storage: RT
UN 1492; DOT Class 5.1:Oxidizer

Sodium Dodecyl Sulfate — Electrophoresis
White Powder

packaging		Mfr. No
100 g	PolyBottle	**BP166-100**
500 g	PolyBottle	**BP166-500**
5 kg	PolyPail	**BP166-5**

$C_{12}H_{25}NaO_4S$
CAS: 151-21-3
MW: 288.38
EINECS: 205-788-1
H228, H311, H302, H335,

H315, H319
P280, P302+P352, P210, P270, P301+P312, P305+P351+P338

Absorbance of a 0.1% Solution at 230nm	<=0.4
Absorbance of a 0.1% Solution at 280nm	0.1
Assay (as Fatty Alcohol Sulfate)	>=99%
Assay (as C_{12}-OH)	98%
DNase	Not detected
Electrophoresis	To pass test
Lead	<=5ppm
Phosphate (PO_4)	<=0.0001%
RNase	Not detected

Applications: Sodium Dodecyl Sulfate (SDS) is the most commonly used detergent in protein purification and electrophoresis. It is used as a protein denaturing agent during both extraction procedures and SDS polyacrylamide gel electrophoresis.
Recommended Storage: RT

Protein Gel-Loading Dye for SDS-PAGE — Electrophoresis
Dark-purple Liquid - 2X

packaging		Mfr. No
1 mℓ	PolyTube	**BP637-1**
5 mℓ	PolyBottle	**BP637-5**

DNase	Not detected
Optical Absorbance (dilution 1250 with deionized water) at 525nm	0.15-0.35
Optical Absorbance (dilution 1250 with deionized water) at 588-594nm	0.32-0.47
Optical Absorbance (dilution 1250 with deionized water) at 635-641nm	0.25-0.40
Protease	Not detected
RNase	Not detected

Applications: This dye is added to protein samples prior to electrophoresis on SDS-PAGE gels.
Components: Sodium Dodecyl Sulfate (<5%), Glycerol (<12%), Tris (<1.0%), Proprietary Component (<2%), and Water (80%).
[151-21-3 (Sodium Dodecyl Sulfate)] ; [56-81-5 (Glycerol)] ; [126-72-7 (Tris)]
Recommended Storage: RT

Sodium Dodecyl Sulfate — Electrophoresis
10% solution

packaging		Mfr. No
200 mℓ	PolyBottle	**BP2436-200**
1 ℓ	PolyBottle	**BP2436-1**

$C_{12}H_{25}NaO_4S$
CAS: 151-21-3
MW: 288.38
EINECS: 205-788-1

H319, H335, H315
P280, P261, P302+P352, P305+P351+P338

Assay (as Fatty Alcohol Sulfate)	>=99%
Chloride (Cl)	<=0.1%
Concentration	10.0±0.5%
Copper	<=0.0005%
DNase	Not detected
Lead	<=0.0005%
Optical Absorbance of a 0.1% Solution at 230nm	<=0.4
Optical Absorbance of a 0.1% Solution at 280nm	<=0.1
Phosphate (PO_4)	<=0.0005%
Protease	Not detected
RNase	Not detected

Applications: Sodium Dodecyl Sulfate (SDS) is the most commonly used detergent in protein purification and electrophoresis. It is used as a protein denaturing agent during both extraction procedures and SDS polyacrylamide gel electrophoresis.
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Sodium Dodecyl Sulfate — Electrophoresis/Molecular Biology
20% Solution

packaging		Mfr. No
200 mℓ	PolyBottle	BP1311-200
1 ℓ	PolyBottle	BP1311-1

$C_{12}H_{25}NaO_4S$
CAS: 151-21-3
MW: 288.38
EINECS: 205-788-1

H319, H335, H315
P280, P261, P302+P352, P305+P351+P338

Assay (as Fatty Alcohol Sulfate)	>=99%
Chloride (Cl)	<=0.1%
Concentration	20 ±0.5%
Copper	<=0.0005%
DNase	Not detected
Lead	<=0.0005%
Optical Absorbance of a 0.1% Solution at 230nm	<=0.4
Optical Absorbance of a 0.1% Solution at 280nm	<=0.1
Phosphate (PO_4)	<=0.0005%
Protease	Not detected
RNase	Not detected

Filtered through a 0.2-micron filter.
Recommended storage: RT

Sodium Persulfate, >98%
White Crystalline Powder

packaging		Mfr. No
1 kg	PolyBottle	BP2637-1

$Na_2O_8S_2$
CAS: 7775-27-1
MW: 238.09
H272, H315, H302, H317, H334, H319, H335

P261, P280, P308+P313, P302+P352, P210, P305+P351+P338

Assay	>=98.0%

Applications: Sodium Persulfate is used as a promoter for polymerization reactions.
Recommended Storage: RT
UN 1505; DOT Class 5.1:Oxidizer

Tris-Glycine-SDS — Electrophoresis
Dry Powder Mix of Tris/Glycine/SDS

packaging		Mfr. No
92 g	PolyBottle	BP1398-92

H335, H319, H315
P261, P264, P302+P352, P280, P305+P351+P338

Electrophoresis	To pass test
pH of 1X Buffer (at 25°C)	8.3 ±0.2
Solubility (buffer in final volume of 1 liter in H2O)	Clear solution

Components in 1X buffer: 0.025M Tris, 0.192M glycine, and 0.1% SDS.
Components: Glycine (82.3%), Tris (17.1%), and SDS (0.6%) [56-40-6 (Glycine)] ; [77-86-1 (Tris)] ; [151-21-3 (SDS)]
Recommended Storage: RT
Makes 1 liter of 5X buffer. Final concentrations of components in 1X buffer: 0.025M Tris, 0.192M glycine, and 0.1% SDS.

Sucrose Gel-Loading Dye for DNA Gels — Electrophoresis
5X, Contains 40% Sucrose

packaging		Mfr. No
1 mℓ	PolyTube	BP655-1
5 mℓ	PolyBottle	BP655-5

DNase	Not detected
Electrophoresis	To pass test
Optical Absorbance (dilution 1:500 with deionized water) at 525nm	0.30-0.45
Optical Absorbance (dilution 1:500 with deionized water) at 588-594nm	0.50-0.65
Optical Absorbance (dilution 1:500 with deionized water) at 635-641nm	0.47-0.62
RNase	Not detected

Applications: This dye includes sucrose instead of glycerol. Add the dye to DNA samples prior to electrophoresis on agarose gels.
Components: Sucrose (40%), Proprietary Component (<3%), and Water. [57-50-1 (Sucrose)]
Recommended Storage: RT

Silver Nitrate — Certified ACS
Crystalline

packaging		Mfr. No
100 g	AmberGlass	BP2546-100

$AgNO_3$
CAS: 7761-88-8
MW: 169.87

Assay	>=99.7%
Chloride (Cl)	<=5ppm
Clarity of Solution	To pass test
Copper	<=2ppm
Free Acid	To pass test
Iron	<=2ppm
Lead	<=0.001%
Substances not Precipitated by HCl	<=0.01%
Sulfate (SO_4)	<=0.002%

Applications: Silver Nitrate is used in biochemistry to stain agarose and acrylamide gels.
Recommended Storage: RT
UN 1493; DOT Class 5.1:Oxidizer

TEMED — Electrophoresis

packaging		Mfr. No
20 g	AmberGlass	BP150-20
100 g	AmberGlass	BP150-100

$C_6H_{16}N_2$
CAS: 110-18-9
MW: 116.21

EINECS: 203-744-6

Assay (by titration)	>=97%
DNase	Not detected
Electrophoresis	To pass test
Protease	Not detected
RNase	Not detected

Applications: TEMED is a commonly used catalyst for the polymerization of acrylamide/bis-acrylamide.
Recommended Storage: RT
UN 2372; DOT Class 3:Flammable Liquid

Tris-Glycine-SDS
10X Powder
Electrophoresis

packaging		Mfr. No
1	FoilPack	**BP1342-1**

H315, H319
P280, P305+P351+P338

Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.4±0.1
Protease	Not detected

Applications: Tris-Glycine-SDS is commonly used as a buffer in SDS-PAGE.
Each pack contains preweighed powder to make 1ℓ of a 10X solution (0.25M Tris Base, 1.92M Glycine, and 1.0% w/v SDS).
[77-86-1 (Tris)] ; [56-40-6 (Glycine)] ; [151-21-3 (SDS)]
Recommended Storage: RT

Tris-Glycine
1X Solution
Electrophoresis

packaging		Mfr. No
4 ℓ	PolyPac*	**BP2439-4**
20 ℓ	PolyPac*	**BP2439-20**

DNase	Not detected
Electrophoresis	To pass test
pH (at 25°C)	8.4±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-Glycine is commonly used as a buffer in native polyacrylamide gel electrophoresis.
0.025M Tris Base and 0.192M Glycine [77-86-1 (Tris)] ; [56-40-6 (Glycine)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris-Glycine
10X Powder
Electrophoresis

packaging		Mfr. No
1	FoilPack	**BP1307-1**

CAS: [77-86-1 (Tris)], [56-40-6 (Glycine)]
H315, H319
P305+P351+P338, P280

DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.4±0.1
Protease	Not detected
RNase	Not detected

Recommended storage: RT

Tris-Glycine-SDS
10X Solution
Electrophoresis

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1341-1**
4 ℓ	PolyPac*	**BP1341-4**

DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.4±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-Glycine-SDS is commonly used as a buffer in SDS-PAGE.
Components: 0.25M Tris Base, 1.92M Glycine, and 1.0% (w/v) SDS.
[77-86-1 (Tris)] ; [56-40-6 (Glycine)] ; [151-21-3 (SDS)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tris-Glycine
10X Solution
Electrophoresis

packaging		Mfr. No
1 ℓ	PolyBottle	**BP1306-1**
4 ℓ	PolyPac*	**BP1306-4**

CAS: [77-86-1 (Tris)], [56-40-6 (Glycine)]

DNase	Not detected
Electrophoresis	To pass test
pH (1X solution) (at 25°C)	8.3-8.5
Protease	Not detected
RNase	Not detected

Filtered through a 0.2-micron filter.
Recommended storage: RT

Tris-Glycine-SDS
1X Solution
Electrophoresis

packaging		Mfr. No
4 ℓ	PolyPac*	**BP2440-4**
20 ℓ	PolyPac*	**BP2440-20**

DNase	Not detected
Electrophoresis	To pass test
pH of 1X solution (at 25°C)	8.3±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-Glycine-SDS is commonly used as a buffer in SDS-PAGE.
0.025M Tris Base, 0.192M Glycine, and 0.1% (w/v) SDS.
[56-40-6 (Glycine)] ; [77-86-1 (Tris)] ; [151-21-3 (SDS)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Tween* 20

packaging		Mfr. No
100 mℓ	PolyBottle	BP337-100
500 mℓ	PolyBottle,EcoSafPak*	BP337-500

CAS: 9005-64-5

Arsenic	<=0.0003%
Arsenic (As)	<=0.0003%
Copper	<=0.0005%
Copper (Cu)	<=0.0005%
Hydroxyl Number	96-108
Hydroxyl number	96-108
Lead	<=0.0005%
Lead (Pb)	<=0.0005%
Protease	Not detected
Residue after ignition	<=0.25%
Water	<=3%

Applications: This nonionic detergent is used in the isolation of water-soluble membrane proteins.
Recommended Storage: RT
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Tween* 80

packaging		Mfr. No
500 mℓ	AmberGlass,EcoSafPak*	BP338-500

CAS: 9005-65-6

Arsenic	<=0.0001%
Copper	<=0.0005%
Hydroxyl Number	65-80
Lead	<=0.0005%
Residue after ignition	<=0.25%
Water	<=3.0%

Applications: This nonionic detergent is used in the isolation of water-soluble membrane proteins.
Recommended Storage: RT
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Urea — Molecular Biology

Colorless-to-white Crystals or Crystalline Powder

packaging		Mfr. No
500 g	PolyBottle	BP169-500
2.5 kg	PolyBottle	BP169-212
10 kg	PolyPail	BP169-10

CH_4N_2O
CAS: 57-13-6
MW: 60.06
EINECS: 200-315-5

H315
P302+P352

Absorbance of a 5M Solution at 280nm	<=0.05
Assay	>=99.0%
Biuret Test	Negative
CNO	<=5ppm
Copper	<=1ppm
DNase	Not detected
Heavy Metals (Pb)	<=5ppm
Iron	<=2ppm
Melting Point	132°-135°C
Protease	Not detected
RNase	Not detected
Solubility of an 8M Solution	To pass test

Applications: Urea is used as a denaturing agent for DNA and proteins.
Recommended Storage: RT

2-Mercaptoethanol — Electrophoresis

packaging		Mfr. No
100 g	AmberGlass/PoisonPack	BP176-100

C_2H_6OS
CAS: 60-24-2
MW: 78.13
H302, H411, H315, H335, H311, H319

P280, P312, P302+P350, P261, P273, P301+P312, P305+P351+P338

Assay	>=98%
DNase	Not detected
Electrophoresis	To pass test
RNase	Not detected
Total Disulfide (S-S) Absorbance of a 0.02M Solution (at 285nm)	<=0.05

Applications: 2-Mercaptoethanol reduces disulfide linkages in proteins and peptides and is used in many enzymatic reactions as a protein stabilizer.
Recommended Storage: RT
UN 2966; DOT Class 6.1:Poison

4-(2-Aminoethyl)benzenesulfonyl Fluoride Hydrochloride

White Powder

packaging		Mfr. No
10 mg	AmberGlass	BP2644-10
50 mg	AmberGlass	BP2644-50
100 mg	AmberGlass	BP2644-100
500 mg	AmberGlass	BP2644-500
1 g	AmberGlass	BP2644-1

$C_8H_{10}FNO_2S.ClH$
CAS: 30827-99-7
MW: 239.7
H314

P280, P301+P330+P331, P310, P305+P351+P338, P303+P361+P353, P210

FTIR	Conforms to reference
Melting Point	175°-185°C
Purity (by HPLC)	>=97%

Applications: 4-(2-Aminoethyl)benzenesulfonyl Fluoride Hydrochloride is a covalent binding serine protease inhibitor.
Similiar in structure to the commonly used inhibitor PMSF, AEBSF offers better solubility in water, lower toxicity, greater stability and higher inhibitory activity. AEBSF belongs to the family of irreversible sulfonyl fluoride inhibitors that block trypsin and chymotrypsin-type enzymes.
Recommended Storage: RT, protect from light.
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

AEBSF Hydrochloride
White to Off-white Crystals

packaging		Mfr. No
50 mg	PolyMicroTube	**BP635-50**
100 mg	PolyMicroTube	**BP635-100**
500 mg	PolyMicroTube	**BP635-500**

$C_8H_{10}FNO_2S.ClH$
CAS: 30827-99-7
MW: 239.7
H314

P280, P301+P330+P331, P310, P305+P351+P338, P303+P361+P353, P210

Assay (TLC, HPLC)	>=98.0%
Carbon	40.09% ±0.5%
Hydrogen	4.62% ±0.04%
Melting Point	182.0°-190.0°C
Nitrogen	5.84% ±0.2%
Solubility	TIUTrypsin Inhibitor Units determined using Pefachrome TRY.
Solubility 20g in 100mℓ Water	To pass test
Solubility 7.5g in 100mℓ Absolute Alcohol	To pass test
Solubility Inhibitor Activity	>250TIU/g
Sulfur	13.38% ±0.1%

Applications: This specific, irreversible inhibitor of serine proteases is a stable, nontoxic alternative to PMSF.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Benzamidine Hydrochloride Hydrate
White Crystalline Powder

packaging		Mfr. No
25 g	PolyBottle	**BP435-25**
1 kg	AmberGlass	**BP435-1**

$C_7H_8N_2.HCl$
CAS: 1670-14-0
MW: 156.61
EINECS: 216-795-4

H335, H315, H319
P261, P302+P352, P280, P305+P351+P338

Assay	>=99.0%
Heavy Metals (Pb)	<=0.005%
Lambda Max. (in Methanol)	230nm ±5nm
Solubility (1% in H_2O at Room Temp.)	Clear and haze-free
Water (internal)	<=15%

Applications: Benzamidine Hydrochloride is commonly used as a protease inhibitor.
Recommended Storage: 4°C

Brij* 35

packaging		Mfr. No
500 g	AmberGlass	**BP345-500**

$C_{58}H_{118}O_{24}$
CAS: 9002-92-0
MW: 1199.56
H302, H315, H319, H335

P280, P305+P351+P338, P330, P264, P301+P312

Hydroxyl Number	40-60
Water	<=3.0%

Applications: This nonionic detergent is used for solubilizing proteins and isolating membrane complexes.
Avg. Molecular Wt.:~600
Recommended Storage: RT

CHAPS
White Crystalline Powder

packaging		Mfr. No
1 g	AmberGlass	**BP571-1**
5 g	AmberGlass	**BP571-5**

$C_{32}H_{58}N_2O_7S$
CAS: 75621-03-3
MW: 614.9
H335, H319, H315

P261, P302+P352, P280, P305+P351+P338

Assay (TLC)	>=98%
Conductivity of a 10% Aqueous Solution (at 24°C)	<50µmhos/cm
FTIR	Conforms to standard
Optical Absorbance (1%) at 260nm	<=0.1
Optical Absorbance (1%) at 280nm	<=0.1
pH of 10% Solution	5.0-7.0
Solubility (0.5g/50mL)	Clear and colorless liquid

Applications: CHAPS is a Zwitterionic detergent used for solubilizing membrane proteins.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

CHAPSO
White Powder

packaging		Mfr. No
500 mg	AmberGlass	**BP575-500**

$C_{32}H_{58}N_2O_8S$
CAS: 82473-24-3
MW: 630.88
H302, H312, H332, H315,

H319, H335
P280, P305+P351+P338

Assay (N_2)	>=99%
Conductivity of a 0.5M Aqueous Solution (at 24°C)	<=100µmhos/cm
Optical Absorbance (1%) at 260nm	<=0.05
pH of 1% Aqueous Solution	5.0-8.0
Residue after ignition	<=0.1%
Solubility (10% in Water)	Clear, haze-free
TLC	Comparable to reference
Water (Karl Fischer)	<=7.5%

Applications: CHAPSO is a Zwitterionic detergent used for protein solubilization.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Dithioerythritol
White Crystals or Powder

Electrophoresis

packaging		Mfr. No
5 g	PolyBottle	**BP173-5**

$C_4H_{10}O_2S_2$
CAS: 6892-68-8
MW: 154.24
EINECS: 229-998-8
H302, H335, H319, H315

P261, P301+P312, P302+P352, P280, P305+P351+P338

Assay	>=99%
Corrected Absorbance of Disulfide (S-S) in 0.02M Solution (at 285nm)	<=0.13
Electrophoresis	To pass test
IR	Conforms to standard
Melting Point	83° ±2°C

Applications: Dithioerythritol is used to reduce disulfide bonds in proteins and peptides and is added in low concentrations as an enzyme stabilizer during protein purification and enzymatic reactions.
Recommended Storage: -20°C

Dithiothreitol — Electrophoresis
White Crystals or Powder

packaging		Mfr. No
5 g	AmberGlass	BP172-5
25 g	AmberGlass	BP172-25

$C_4H_{10}O_2S_2$
CAS: 3483-12-3
MW: 154.24
H302, H335, H319, H315

P261, P301+P312, P302+P352, P280, P305+P351+P338

Assay	>=99%
Corrected Absorbance of Disulfide (S-S) in 0.02M Solution (at 280nm)	<=0.04
DNase	Not detected
Electrophoresis	To pass test
IR	Conforms to standard
Melting Point	41° ±2°C
Protease	Not detected
RNase	Not detected

Applications: Dithiothreitol is used to reduce disulfide bonds in proteins and peptides and is added in low concentrations as an enzyme stabilizer during protein purification and enzymatic reactions.
Recommended Storage: -20°C

Leupeptin Hemisulfate
White Powder

packaging		Mfr. No
1 mg	AmberGlass	BP2662-1
5 mg	AmberGlass	BP2662-5
25 mg	AmberGlass	BP2662-25
100 mg	AmberGlass	BP2662-100

$C_{20}H_{38}N_6O_4.0.5H_2O_4S$
CAS: 103476-89-7
MW: 475.6
H302, H312, H332

P280, P301+P312, P305+P351+P338, P302+P352

Applications: Leupeptin Hemisulfate is a biochemical used as an inhibitor for trypsin, plasmin, papain, and cathepsin B.
Recommended Storage: -20°C, desiccate, protect from light.
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Pepstatin A
White Powder

packaging		Mfr. No
5 mg	AmberGlass	BP2671-5
10 mg	AmberGlass	BP2671-10
25 mg	AmberGlass	BP2671-25
100 mg	AmberGlass	BP2671-100
250 mg	AmberGlass	BP2671-250

$C_{34}H_{63}N_5O_9$
CAS: 26305-03-3
MW: 685.9

EINECS: 247-600-0

FTIR	Conforms to Standard
Melting Point	230°-240°C

Applications: Pepstatin A is an inhibitor for pepsin, renin, cathepsin D, and other acid proteases.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Sarkosyl

packaging		Mfr. No
500 g	PolyBottle	BP234-500

$C_{15}H_{28}NNaO_3$
CAS: 137-16-6
MW: 293.39

EINECS: 205-281-5

Assay (dry basis)	>=95%
pH of 10% Solution	7.5-8.5

Applications: This anionic detergent is used for the solubilization of membrane proteins.
Recommended Storage: RT

Thapsigargin
Clear or Whitish Oil

packaging		Mfr. No
1 mg	GlassAmpule	BP629-1

$C_{34}H_{50}O_{12}$
CAS: 67526-95-8
MW: 650.76
H311, H331, H301

P301+P310, P280, P312, P302+P350, P304+P340

Assay (TLC)	>=98.0%
Solubility (10mg/mℓ in Acetonitrile, DMSO, and Ethanol)	To pass test

Applications: This compound is useful as an inhibitor of microsomal calcium-ATPase and as a potent cell-permeable, intracellular calcium releaser that is independent of IP3.
Isolated from Thapsia garganica ℓ.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.
UN 2811; DOT Class 6.1:Poison

Triton* X-100 — Electrophoresis

packaging		Mfr. No
100 mℓ	PolyBottle	BP151-100
500 mℓ	PolyBottle,EcoSafPak*	BP151-500

$C_{34}H_{62}O_{11}$
CAS: 9002-93-1
MW: 646.85
H412, H318, H302

P280, P305+P351+P338, P310, P273, P301+P312

Cloud Point (1% in H_2O)	63-69°C
IR	Conforms to standard
pH of 5% Solution (at 25°C)	6-8
Solubility (1 in 10mℓ H2O)	Colorless, slightly hazy solution

Applications: This nonionic detergent is used to solubilize membranes.
Recommended Storage: RT
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Actinomycin-D
Red Crystals

packaging		Mfr. No
5 mg	PolyMicroTube	**BP606-5**
10 mg	PolyMicroTube	**BP606-10**

$C_{62}H_{86}N_{12}O_{16}$
CAS: 50-76-0
MW: 1255.44
EINECS: 200-063-6

H301
P301+P310

Assay	>=98.0%
E Max	24700
Maximum Absorbance (lambda Max.)	441nm
Melting Point	245°-252°C
Solubility (10mg/mℓ in Methanol and Methylene Chloride)	To pass test

Applications: This antibiotic is a widely used transcription inhibitor. Isolated from Streptomyces parvuius.
Recommended Storage: 4°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Amikacin From Kanamycin A
White Crystalline Powder

packaging		Mfr. No
250 mg	AmberGlass	**BP2643-250**
1 g	AmberGlass	**BP2643-1**

$C_{22}H_{43}N_5O_{13}$
CAS: 37517-28-5
MW: 585.61
Melting point: White

Crystalline Powder
EINECS: 253-538-5

Loss on drying	<=9%
pH (1% Aqueous Solution)	9.5-11.5
Potency	900µg/mg

Melting Point:203°-204°C
Recommended Storage: 0° to 5°C, desiccate.
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Amphotericin B
Yellow Powder

packaging		Mfr. No
250 mg	AmberGlass	**BP928-250**

$C_{47}H_{73}NO_{17}$
CAS: 1397-89-3
MW: 924.09
EINECS: 215-742-2

H315, H319, H335
P280, P305+P351+P338

Amphotericin A	<=15%
Loss on Drying (at 105°C)	<=5.0%

Applications: Amphotericin B is an antibiotic used for controlling microbial contamination in tissue culture applications.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Amphotericin B 250µg/mL
Yellow Solution

packaging		Mfr. No
20 mℓ	PolyBottle	**BP2645-20**
50 mℓ	PolyBottle	**BP2645-50**

$C_{47}H_{73}NO_{17}$
CAS: 1397-89-3
MW: 924.1

EINECS: 215-742-2

Concentration	250 µg/mℓ
pH at 25°C	Inclusive between 6.5-7.5
Sterility	Sterile filtered

Applications: Amphotericin B is effective against yeast and fungi. An antibiotic solution used in cell biology.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Ampicillin Sodium Salt
Crystalline Powder

packaging		Mfr. No
5 g	PolyBottle	**BP1760-5**
25 g	PolyBottle	**BP1760-25**

$C_{16}H_{18}N_3NaO_4S$
CAS: 69-52-3
MW: 371.39
H317, H334

P261, P304+P341,
P342+P311, P280

Dimethylaniline	<0.002%
Moisture	<2.0%
pH of 1% Aqueous Solution	8.0-10.0
Potency	845-988µg/mg

Recommended Storage: 4°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Ampicillin Trihydrate
Off-white Powder

packaging		Mfr. No
25 g	PolyBottle	**BP902-25**

$C_{16}H_{19}N_3O_4S.3H_2O$
CAS: 7177-48-2
MW: 403.45
H317, H334

P261, P304+P341,
P342+P311, P280

Assay	>=90%
pH of 1% Solution (at 25°C)	3.5-6.0
Potency (Anhydrous)	Inclusive between 950-1050µg/mg

Recommended Storage: 4°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Antibiotic A23187 Free Acid
Off-white Crystalline Powder

packaging		Mfr. No
5 mg	PolyMicroTube	BP2502-5

$C_{29}H_{37}N_3O_6$
CAS: 52665-69-7
MW: 523.63
EINECS: 258-084-1
H302, H312, H332, H315, H319, H335
P302+P352, P280, P261, P301+P312, P304+P340, P305+P351+P338

Di-n-butyl ether	>=99.0%
Purity (HPLC)	>=99.0%

Applications: Antibiotic A23187 is a biochemical tool used to study the role of divalent cations in various biological systems. This antibiotic demonstrates weak in vitro activity against gram-positive bacteria and fungi. A widely used ionophore. It has the ability to increase the intracellular concentrations of cations and is widely used to increase the intracellular levels of calcium.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Bacitracin
White or Almost White Powder

packaging		Mfr. No
1 g	Amber Glass	992E7
5 g	Amber Glass	BP2950-5

$C_{66}H_{103}N_{17}O_{16}S$
CAS: 1405-87-4
MW: 1422.71
EINECS: 215-786-2

Loss on drying	<=5.0%
pH at 25°C	Inclusive between 5.5-7.5
Potency	>70 U/mg
Source	Bacillus licheniforms

Applications: Inhibitor of protein disulfide isomerase. Interferes with the building blocks of peptidoglycan bacterial cell wall. Antimicrobial spectrum: Gram-positive bacteria.
Recommended storage: 4°C

Blasticidin S Hydrochloride From Streptomyces griseochromogenes
White Powder

packaging		Mfr. No
25 mg	AmberGlass	BP2647-25
50 mg	AmberGlass	BP2647-50
100 mg	AmberGlass	BP2647-100

$C_{17}H_{26}N_8O_5.HCl$
CAS: 3513-03-9
MW: 458.69
H300, H312
P301+P310, P280, P302+P352

Potency (Assay)	>=900µg/mg
Purity	>=99.0%
Solubility (5mg/ml): Water	Clear, slight yellow solution

Recommended Storage: 0° to 5°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Carbenicillin Disodium Salt
White Powder

packaging		Mfr. No
250 mg	AmberGlass	BP2648-250
1 g	AmberGlass	BP2648-1
5 g	AmberGlass	BP2648-5

$C_{17}H_{16}N_2Na_2O_6S$
CAS: 4800-94-6
MW: 422.36
EINECS: 225-360-8
H317, H334
P280, P305+P351+P338

pH (at 25°C, 1% water)	6.5-8.0
Potency	>=770µg/mg
Water Content	<=6.0%

Recommended Storage: 0° to 5°C

Cefotaxime, Sodium Salt
White or Almost White Powder

packaging		Mfr. No
1 g	Amber Glass	992NX

$C_{16}H_{16}N_5NaO_7S_2$
CAS: 64485-93-4
MW: 477.44
H334, H315, H319, H335, H317
P261, P304+P341, P342+P311, P280, P302+P352, P305+P351+P338

Bacterial endotoxins-kinetic	<2 EU/mg
Individual impurity	<1%
Loss on drying	<3%
pH at 25°C	Inclusive between 4.5-6.5
Potency	Inclusive between 916-964 u/µg
Specific rotation at 25°C	Inclusive between 58-64
Total impurities	<3%

Applications: Inhibits bacterial cell wall synthesis. Antimicrobial spectrum: Broad spectrum third generation cephalosporin antibiotic.
Recommended storage: 4°C

Chloramphenicol Crystalline Powder

packaging		Mfr. No
100 g	PolyBottle	BP904-100

$C_{11}H_{12}Cl_2N_2O_5$
CAS: 56-75-7
MW: 323.13
EINECS: 200-287-4
H350
P201, P308+P313

Chromatography purity	To pass test
Melting Range	149°-153°C
pH (2.5%) at 25°C	Inclusive between 4.7-7.5
Purity	Inclusive between 97-103%
Specific Rotation (25°C ±0.5°C)	+17° to +20°

Recommended Storage: RT
Not for drug use.

Doxorubicin Hydrochloride
Reddish-orange Powder

packaging		Mfr. No
1 mg	AmberGlass	**BP2516-1**
5 mg	AmberGlass	**BP2516-5**
10 mg	AmberGlass	**BP2516-10**
50 mg	AmberGlass	**BP2516-50**

$C_{27}H_{29}NO_{11}.HCl$
CAS: 25316-40-9
MW: 579.98
EINECS: 246-818-3
H350, H340, H302, H318,

H315, H335, H361fd
P280, P305+P351+P338,
P310, P201,
P303+P361+P353

Acetone	<=0.50%
Assay (HPLC)	>=95%
Carbon tetrachloride	<=1.0%
Doxorubicinone	<=0.50%
FTIR	Conforms to standard
pH	Inclusive between 4.0-5.5
Propan--2-ol	<=2.2 U/mg
Purity (HPLC)	>=99.0%
Solubility: In Acetone & Ethanol	Practically insoluble
Solubility: In Methanol	Slightly soluble
Solubility: In Water	Completely soluble
Total impurities	<=1.0%
Water	<=4.0%

Applications: Doxorubicin HCL is a chemotherapeutic agent. Antitumor, immunosuppressive, and antibiotic agent. It blocks RNA polymerase and reverse transcriptase. Also inhibits nucleic acid synthesis.
Recommended Storage: 2° to 8°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Doxycycline Hydrochloride
Yellow Powder

packaging		Mfr. No
1 g	AmberGlass	**BP2653-1**
5 g	AmberGlass	**BP2653-5**

$C_{22}H_{24}N_2O_8.ClH$
CAS: 10592-13-9
MW: 480.91
EINECS: 234-198-7
H302, H312, H332, H315,

H319, H335
P261, P270, P280,
P305+P351+P338,
P308+P313, P302+P352

Carbon tetrachloride	Inclusive between 4.3-6.0%
FTIR	Conforms to standard
Heavy metals	<=50 ppm
Potency	Inclusive between 800-920µg/mg
Purity	>=98.0
Sulfated ash	<=0.4%
Water	Inclusive between 1.4-2.8%

Recommended Storage: 0° to 5°C, light sensitive, desiccate.
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Erythromycin
White Crystalline Powder

packaging		Mfr. No
25 g	PolyBottle	**BP920-25**

$C_{37}H_{67}NO_{13}$ EINECS: 204-040-1
CAS: 114-07-8
MW: 733.94

IR	Conforms to standard
Limit of related substances	<=5%
Moisture (KF)	<=10%
pH (0.07% water at 25°C)	Inclusive between 8.0-10.5
pH of 0.4% Solution in 5% Methanol in Water	8.0-10.5
Purity	Inclusive between 85.0-100.5%
Residue after ignition	<0.2%
Specific rotation	Inclusive between -78 to +71%
Thiocynate	<=0.3%

Applications: Erythromycin is used as an inhibitor in cell-free protein biosynthesis.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

G418 Sulfate
White to Off-white Powder

packaging		Mfr. No
1 g	AmberGlass	**BP673-1**
5 g	AmberGlass	**BP673-5**

$C_{20}H_{40}N_4O_{10}.2H_2SO_4$
CAS: 108321-42-2
MW: 692.7
H334, H317, H360FD

P261, P304+P341,
P342+P311, P280, P201,
P308+P313

ABS 280nm (1mg/mℓ solution)	<0.015
ABS 570nm (100mg/mℓ solution)	<0.10
Biological potency test ED50-resistant assay	>=2500µg/mℓ
Biological potency test ED50-sensitive assay	<=400µg/mℓ
Biological potency test Solubility in Water	To pass test
Potency (B. subtilis)	760±40µg/mg

Applications: This antibiotic inhibits microbial contamination in tissue culture and molecular biology applications. The effective killing concentration of G418 varies with the cell type, media, growth conditions, and the cells' metabolic rate and position in the cell cycle. Effective concentrations have been reported from 100µg/mℓ up to 5mg/mℓ.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Gentamycin Sulfate
White Powder

packaging		Mfr. No
1 g	AmberGlass	**BP918-1**

$C_{21}H_{43}N_5O_7.H_2SO_4$
CAS: 1405-41-0
MW: 575.67
EINECS: 215-778-9

H317, H334, H360FD
P261, P280, P201,
P308+P313, P285

Fluoride (F)	Inclusive between 3.5-5.5
pH of Solution (1:25)	3.5 to 5.5
Potency (Assay)	>590µg/mg
Residue after ignition	<1%
Specific rotation	Inclusive between +107 to +121 °

Applications: Gentamycin Sulfate inhibits protein synthesis, preventing microbial contamination in tissue culture applications. It is also used to confer antibiotic resistance/sensitivity in molecular biology procedures.
Recommended Storage: 4°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Hygromycin B

Liquid, Dark Brown Solution

packaging		Mfr. No
2 mℓ	Amber Glass	BP2952-1MU

$C_{20}H_{37}N_3O_{13}$
CAS: 31282-04-9
MW: 527.5
H300, H317, H334, H310, H318
P301+P310, P280, P361,
P302+P350,
P305+P351+P338, P310,
P261, P304+P341,
P342+P311

Purity	>80%
Source	Streptomyces hygroscopicus
Sterile filtered	To pass test

Applications: Used as a selection agent for hygromycin resistance gene transformed cells. Blocks polypeptide synthesis and inhibits elongation.
Description: Sterile-Filtered
Recommended storage: 4°C

Ketoconazole

White Powder

packaging		Mfr. No
50 mg	AmberGlass	BP2734-50
100 mg	AmberGlass	BP2734-100
500 mg	AmberGlass	BP2734-500
1 g	AmberGlass	BP2734-1

$C_{26}H_{28}Cl_2N_4O_4$
CAS: 65277-42-1
MW: 531.44
EINECS: 265-667-4
H360F, H301, H373, H410
P264, P270, P201, P281,
P308+P313, P273

FTIR	Conforms to standard
Melting Point	148°-152°C
Purity	>=99%

Applications: Ketoconazole is a cytochrome P450 inhibitor and demonstrates anti-psoriatic activity. An antifungal agent.
Recommended Storage: RT
UN 2811; DOT Class 6.1:Poison

Ionomycin, Calcium Salt

From Streptomyces conglobatus

packaging		Mfr. No
1 mg	PolyMicroTube	BP2527-1
5 mg	PolyMicroTube	BP2527-5

$C_{41}H_{70}CaO_9$
CAS: 56092-82-1
MW: 747.07

1.4-Dichlorobenzene	Clear solution
Melting Point	197°-207°C
Purity (by NP TLC)	>=98.0%
Purity (by RP TLC)	>=99.0%
Solubility (5mg/ml): Methanol	Clear solution

Recommended Storage: 4°C, protect from light
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Metolazone

White Crystalline Powder

packaging		Mfr. No
25 mg	AmberGlass	BP2667-25
50 mg	AmberGlass	BP2667-50
100 mg	AmberGlass	BP2667-100

$C_{16}H_{16}ClN_3O_3S$
CAS: 17560-51-9
MW: 365.84
EINECS: 241-539-3

FTIR	Conforms to Reference
Melting Point	245°-260°C

Applications: Metolazone is an anti-hypertensive.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Kanamycin Sulfate

White Powder

packaging		Mfr. No
5 g	PolyBottle	BP906-5

$C_{18}H_{36}N_4O_{11}.H_2SO_4$
CAS: 25389-94-0
MW: 582.59
EINECS: 246-933-9
H334, H335, H360D
P261, P304+P341,
P342+P311, P201,
P308+P313

Chromatographic Purity	To pass USP test
Ignition residue	<1.0%
Kanamycin B	<4.0%
pH of a 1% solution	Inclusive between 6.5-8.5
Potency	>750µg/mg

Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Miconazole

Free Base

packaging		Mfr. No
1 g	AmberGlass	BP2668-1
5 g	AmberGlass	BP2668-5
25 g	AmberGlass	BP2668-25

$C_{18}H_{14}Cl_4N_2O$
CAS: 22916-47-8
MW: 416.13
EINECS: 245-324-5

Chromatography purity	To pass test
Ignition residue	<0.2%
Loss on drying	<0.5%
Purity	Inclusive between 98-102%
Residual solvents	To pass test

Applications: Miconazole is used as an antifungal agent.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Mitomycin C

packaging		Mfr. No
2 mg	AmberGlass	**BP2531-2**
10 mg	AmberGlass	**BP2531-10**
20 mg	AmberGlass	**BP2531-20**

$C_{15}H_{18}N_4O_5$
CAS: 50-07-7
MW: 334.32
EINECS: 200-008-6

H301, H351
P301+P310, P281

Potency ..... >850µg/mg
Purity (by HPLC) ..... >=99.0%
Solubility (10mg/ml): Methanol ..... Clear blue solution

Applications: Mitomycin C is used in biochemical research applications.
Recommended Storage: 4°C

Nystatin — White or Almost White Powder

packaging		Mfr. No
5 g	Amber Glass	**BP2949-5**

$C_{47}H_{75}NO_{17}$
CAS: 1400-61-9
MW: 926.1

EINECS: 215-749-0
Fungicidin Mycostatin

Loss on drying ..... <=5.0%
pH at 25°C ..... Inclusive between 6.0-8.0
Potency ..... >4400 U/mg
Source ..... Streptomyces noursei
Suspendibility ..... To pass test

Applications: Increases the permeability of the cell membrane of sensitive fungi by binding to sterols. Antimicrobial spectrum: Yeasts and molds.
Recommended storage: 0°C

Nalidixic Acid

packaging		Mfr. No
25 g	PolyBottle	**BP908-25**

$C_{12}H_{12}N_2O_3$
CAS: 389-08-2
MW: 232.24
EINECS: 206-864-7

H317, H334, H351
P261, P304+P341, P342+P311, P280, P281

Assay ..... >=98%
Heavy Metals (Pb) ..... <=0.002%
Loss on Drying (at 105°C) ..... <=0.5%
Melting Range ..... 225°-231°C

Applications: Nalidixic Acid functions as a DNA polymerase inhibitor by interfering with DNA gyrase activity.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Paromomycin Sulfate — Dry, White or Off-White Crystalline Powder

packaging		Mfr. No
1 g	Amber Glass	**BP2953-1**

$C_{23}H_{45}N_5O_{14}.H_2SO_4$
CAS: 1263-89-4
MW: 713.71
EINECS: 215-031-7
Aminosidine Sulfate

H335, H319, H315
P261, P302+P352, P280, P305+P351+P338

Loss on drying ..... <5%
Potency ..... >675 U/mg
Source ..... Streptomyces krestomuceticus

Applications: Used to study bacterial protein synthesis at the level of 16S ribosomal RNA and 30S ribosome assembly. Inhibits initiation and elongation during protein synthesis. Antimicrobial spectrum: Gram-negative and Gram-positive bacteria.
Recommended storage: RT

Neomycin Sulfate
White Powder

packaging		Mfr. No
5 g	AmberGlass	**BP2669-5**
25 g	AmberGlass	**BP2669-25**

$C_{23}H_{46}N_6O_{13}.3H_2O_4S$
CAS: 1405-10-3
MW: 908.87
EINECS: 215-773-1

H334, H317, H361d
P261, P304+P341, P342+P311, P280, P281

FTIR ..... Conforms to Standard
Loss on drying ..... <=8%
pH (3.3% aqueous solution) 5-7.5
Potency ..... >=630µg neomycin/mg
Purity ..... >=98% of Neomycin B

Applications: Neomycin Sulfate is an antibiotic and is used in tissue culture studies. It can act as an inhibitor of protein biosynthesis.
Recommended Storage: RT, desiccate, protect from light.

Penicillin G Sodium Salt — Dry, Fine White Powder

packaging		Mfr. No
5 g	Amber Glass	**992EB**

$C_{16}H_{17}N_2NaO_4S$
CAS: 69-57-8
MW: 356.38
Benzylpenicillin sodium salt

H317, H334
P261, P304+P341, P342+P311, P280

Loss on drying ..... <1.5%
pH ..... Inclusive between 5.0-7.5
Potency ..... Inclusive between 1500-1750 U/mg
Source ..... Penicillum fungi

Applications: Inhibits bacterial cell wall synthesis; Antimicrobial spectrum: Gram-positive bacteria.
Recommended storage: RT

Penicillin/Streptomycin Mixture — Clear Solution

packaging		Mfr. No
50 mℓ	Plastic Bottle	992D8

CAS: Penicillin (69-57-8); Streptomycin(3810-74-0)
H334, H317, H360FD
P261, P304+P341, P342+P311, P280, P201, P308+P313

Penicillin concentration	10000 U/mℓ
pH	Inclusive between 5.0-7.5
sodium chloride	0.9%
Sterile-filtered	To pass test
Streptomycin concentration	10 mg/mℓ

Applications: Interferes with synthesis of bacterial cell wall. Inhibits protein synthesis; binds to 30S ribosomal subunit.
Description: Sterile-Filtered; Penicillin: 10.000U/ml; Streptomycin: 10mg/mℓ
Recommended storage: <0°C

Penicillin/Streptomycin/Glutamine Mixture — Clear Solution

packaging		Mfr. No
50 mℓ	Plastic Bottle	992EC

CAS: Penicillin (69-57-8); Streptomycin(3810-74-0); Glutamine (56-85-9)
H317, H334, H360FD
P261, P304+P341, P342+P311, P280, P201, P308+P313

Glutamine concentration	200 mM
Penicillin concentration	10000 U/mℓ
pH	Inclusive between 6.0-7.0
sodium chloride	0.9%
Sterile-filtered	To pass test
Streptomycin concentration	10 mg/mℓ

Applications: Interferes with synthesis of bacterial cell wall. Inhibits protein synthesis. Interferes with bacterial cell division.
Description: Sterile-Filtered; Penicillin: 10.000U/ml; Streptomycin: 10mg/ml; Glutamine: 200mM
Recommended storage: <0°C

Penicillin/Streptomycin/Neomycin Mixture — Clear Solution

packaging		Mfr. No
50 mℓ	Plastic Bottle	992ED

CAS: Penicillin (69-57-8); Streptomycin(3810-74-0); Neomycin (1405-10-3)
H317, H334, H360FD
P261, P304+P341, P342+P311, P280, P201, P308+P313

Neomycin concentration	10 mg/mℓ
Penicillin concentration	5000 U/mℓ
pH	Inclusive between 6.3-6.9
sodium chloride	0.9%
Sterile-filtered	To pass test
Streptomycin concentration	5 mg/mℓ

Applications: Interferes with synthesis of bacterial cell wall. Inhibits protein synthesis. Interferes with bacterial cell division.
Description: Sterile-Filtered; Penicillin: 5.000U/ml; Streptomycin: 5mg/ml; Neomycin: 10mg/mℓ
Recommended storage: <0°C

Penicillin-G Potassium Salt
White to Off-white Powder

packaging		Mfr. No
100 g	PolyBottle	BP914-100

$C_{16}H_{17}KN_2O_4S$
CAS: 113-98-4
MW: 372.47
EINECS: 204-038-0
H334, H317
P261, P304+P341, P342+P311, P280, P302+P352, P308+P313

Assay	>=85%
Loss on Drying (at 105°C)	<=1.0%
pH of 0.6% Solution	5.5-7.5

Applications: Penicillin inhibits microbial contamination in tissue culture applications.
Not for drug use.
Recommended Storage: RT

Phleomycin, 2% solution in water — Clear Blue Solution

packaging		Mfr. No
100 mg	Plastic Bottle	992EE

$C_{55}H_{85}CuO_{21}N_{20}S_2.HCl$
CAS: 11006-33-0
MW: 1526.5
Phleomycin complex
H317
P280

Concentration	20 mg/mℓ
Source	Streptomyces verticillus
Sterile-filtered	To pass test
UV abs (200 ug/mℓ at 244 nM)	Inclusive between 0.75-1.05

Applications: Disrupts the integrity of DNA, and blocks S-phase entry in the cell cycle.
Description: Concentration: 20mg/mℓ
Recommended storage: <0°C

Polymyxin B Sulfate — Dry, White or Off-White Powder

packaging		Mfr. No
1 g	Amber Glass	992EF

$C_{55}H_{96}N_{16}O_{13}.2H_2SO_4$
CAS: 1405-20-5
MW: 1385.61
EINECS: 215-774-7
H302
P301+P312

Assay	>6000 U/mg
Loss on drying	<7%
pH	Inclusive between 5.0-7.5
Source	Bacillus polymyxa

Applications: Used as a immobilized (substrate bound) agent for removal of endotoxins. Mode of Action: Binds to and interferes with the permeability of the cytoplasmic membrane; Antimicrobial spectrum: Gram-negative bacteria.
Recommended storage: 4°C

Puromycin Dihydrochloride — Dry, White or Off-White Powder

packaging		Mfr. No
100 mg	Clear Glass	992E4

$C_{22}H_{29}N_7O_5.2HCl.xH_2O$
CAS: 58-58-2
MW: 544.44
H302
P301+P312

Purity (HPLC)	>98%
Source	Streptomyces alboniger
Water (Karl Fischer)	<12%

Applications: For selection of cells transfected with puromycin N-acetyl transferase gene (pac).
Recommended storage: <0°C

Rapamycin
Dry, White or Off-White Powder

packaging		Mfr. No
1 mg	Clear Glass	992E5

$C_{51}H_{79}NO_{13}$ (-)-Rapamycin; Sirolimus
CAS: 53123-88-9
MW: 914.2

Melting point	183-184
Purity (HPLC)	>98%

Applications: Possesses immunosuppressive properties. Blocks a protein that is involved in cell division. A type of serine/threonine kinase inhibitor.
Recommended storage: <0°C

Rifampicin
Bright Orange Powder

packaging		Mfr. No
250 mg	AmberGlass	BP2679-250
1 g	AmberGlass	BP2679-1
5 g	AmberGlass	BP2679-5
25 g	AmberGlass	BP2679-25

$C_{43}H_{58}N_4O_{12}$ H360Fd, H302
CAS: 13292-46-1 P264, P270, P201, P281,
MW: 822.94 P308+P313
EINECS: 236-312-0

Heavy metals	<20 ppm
Loss on Drying (at 105°C)	<1.0%
Purity	Inclusive between 97-102%
Rifampicin quinine	<1.5%
Sulfated ash	<0.1%
UV/VIS (lambda max) methanol	237-239nm

Applications: Rifampicin inhibits DNA-dependent bacterial RNA Polymerase. Mammalian RNA polymerase is not affected.
Recommended Storage: 4°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Spectinomycin Pentahydrate Dihydrochloride
Dry, White or Almost White Powder

packaging		Mfr. No
1 g	Amber Glass	992DC

$C_{14}H_{24}N_2O_7.2HCl.2H_2O$ H335, H315, H319
CAS: 22189-32-8 P261, P302+P352, P280,
MW: 495.35 P305+P351+P338
Spectinomycin
Dihydrochloride Hydrate

Assay	>603 U/mg
pH at 25°C	Inclusive between 3.8-5.6
Residue after ignition	<1%
Source	Streptomyces spectabilis
Specific rotation	Inclusive between 15-21
Water (Karl Fischer)	Inclusive between 16-20%

Applications: For selection of transformed cells containing the spectinomycin resistance gene and inhibition of bacterial protein synthesis at the level of peptidyl tRNA translocation.
Recommended storage: 4°C

Staurosporine
From Streptomyces sp.

packaging		Mfr. No
100 µg	PolyMicroTube	BP2541-100
500 µg	PolyMicroTube	BP2541-500
1 mg	PolyMicroTube	BP2541-1

$C_{28}H_{26}N_4O_3$ H351
CAS: 62996-74-1 P281
MW: 466.5

Assay	>=98%

Applications: Staurosporine is a potent protein kinase inhibitor useful for studies on protein phosphorylation in the regulation of cellular functions.
Recommended Storage: 4°C, protect from light.
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Streptomycin Sulfate
White to Light Yellow Powder

packaging		Mfr. No
50 g	PolyBottle	BP910-50

$C_{42}H_{78}N_{14}O_{24}.3H_2SO_4$ H317, H302, H334, H360FD
CAS: 3810-74-0 P261, P280, P201,
MW: 1457.4 P308+P313, P285
EINECS: 223-286-0

Loss on Drying (at 105°C)	<=5%
pH of a 20% solution	Inclusive between 4.5-7.0
Potency	Inclusive between 650-850µg/mg

Applications: Streptomycin Sulfate inhibits protein synthesis. It prevents microbial contamination in tissue culture applications and confers antibiotic resistance/sensitivity in molecular biology procedures.
Not for drug use.
Recommended Storage: 4°C

Tetracycline hydrochloride
Yellow Powder

packaging		Mfr. No
100 g	PolyBottle	5419T

$C_{22}H_{24}N_2O_8.HCl$ H319, H361d
CAS: 64-75-5 P281, P280,
MW: 480.9 P305+P351+P338

4-epianhydrotetracycline	<=2.0%
Heavy metals	<=0.005%
Loss on Drying (at 105°C)	<=2.0%
pH of a 1% solution	Inclusive between 1.8-2.8
Potency (Assay)	>900µg/mg
Specific rotation	Inclusive between -255 to -240 °

Applications: Tetracycline blocks protein synthesis and is used to select tetracycline-resistant recombinant plasmids.
Not for drug use.
Recommended Storage: RT

Vancomycin Hydrochloride — Dry, White to Light Orange Powder

packaging		Mfr. No
1 g	Amber Glass	BP2958-1

$C_{66}H_{75}Cl_2N_9O_{24}.HCl$
CAS: 1404-93-9
MW: 1485.73
Vancocine Hydrochloride;
Vancocin Hydrochloride

H319, H335, H315, H317
P280, P261, P302+P352,
P305+P351+P338

Potency	>900 U/mg
Source	Streptomyces orientalis
Water (Karl Fischer)	<10%

Applications: Inhibits formation of peptidoglycan polymers of bacterial cell wall.
Recommended storage: <0°C

(-)-Nicotine Tartrate
White Solid

packaging		Mfr. No
250 mg	AmberGlass	BP2533-250
1 g	AmberGlass	BP2533-1

$C_{10}H_{14}N_2.2C_4H_6O_6.2H_2O$
CAS: 65-31-6
MW: 498.44

Melting Point	85°-95°C

Applications: (-)-Nicotine Tartrate is used in biochemical research applications.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

2′-Deoxyguanosine-5′-triphosphate trisodium salt dihydrate

packaging		Mfr. No
10 mg	AmberGlass	BP419-10

$C_{10}H_{13}N_5O_{13}P_3Na_3.2H_2O$ EINECS: 219-887-2
CAS: 2564-35-4
MW: 609.03

Molar Extinction Coefficient (253nm, phosphate buffer, pH 7.0)	>=13.100

Applications: The trisodium salt of dGTP is suitable for use in many molecular biology applications.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Adenosine 5′-Triphosphate Disodium Salt Trihydrate

packaging		Mfr. No
25 g	PolyBottle	BP413-25

$C_{10}H_{14}N_5Na_2O_{13}P_3.3H_2O$
CAS: 51963-61-2
MW: 605.19

Lead	<=0.002%
Solubility (5% in H_2O, 25°C)	Clear and haze-free

Applications: The disodium salt of ATP is suitable for use in many molecular biology applications.
Recommended Storage: Store below 0°C

Aphidicolin
White to Off-white Solid

packaging		Mfr. No
1 mg	PolyMicroTube	BP615-1

$C_{20}H_{34}O_4$
CAS: 38966-21-1
MW: 338.49

Assay	>=98%
Carbon	70.97% ±1%
Hydrogen	10.12% ±0.2%
Melting Point	226°-235°C
Solubility (10mg in 1mℓ Methanol)	To pass test

Applications: This compound is a reversible inhibitor of eukaryotic nuclear DNA replication.
Isolated from Nigrospora orycae.
Recommended Storage: 4°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Calcium Ionophore A23187
Free Acid

packaging		Mfr. No
1 mg	PolyMicroTube	BP595-1
5 mg	PolyMicroTube	BP595-5
10 mg	PolyMicroTube	BP595-10

$C_{29}H_{37}N_3O_6$ EINECS: 258-084-1
CAS: 52665-69-7
MW: 523.63

Assay (TLC, Ethylacetate:toluene (1:1))	>=98%
Carbon	66.52% ±1%
Hydrogen	-50.0° ±3°7.12% ±0.2%
Melting Point	186°-192°C
Nitrogen	8.02% ±0.2%
Optical Rotation α^{25}_D	-50.0° ±3°
Solubility (in DMSO, Ethylacetate, Methanol, and Chloroform)	To pass test

Applications: This widely used ionophore increases the permeability of biological membranes for bivalent cations.
Isolated from Streptomyces chartreusensis.
Recommended Storage: 4°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Citric Acid Anhydrous
Crystalline

packaging		Mfr. No
500 g	PolyBottle	BP339-500

$C_6H_8O_7$
CAS: 77-92-9
MW: 192.13
EINECS: 201-069-1

H319
P264, P305+P351+P338,
P337+P313, P280

Assay	>=99.5%
Chloride (Cl)	<=0.001%
Insoluble matter	<=0.005%
Iron	<=3ppm
Lead	<=2ppm
Oxalate	To pass test (about 0.05%)
Phosphate (PO_4)	<=0.001%
Residue after ignition	<=0.02%
Substances Carbonizable by H_2SO_4 (Tartrates, etc.)	To pass test
Sulfur compounds (as SO_4)	<=0.002%

Applications: Anhydrous citric acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

Coenzyme A Trilithium Salt Dihydrate
White Crystalline Powder

packaging		Mfr. No
25 mg	AmberGlass	**BP2510-25**
50 mg	AmberGlass	**BP2510-50**
100 mg	AmberGlass	**BP2510-100**
250 mg	AmberGlass	**BP2510-250**
1 g	AmberGlass	**BP2510-1**

$C_{21}H_{33}N_7O_{16}P_3SLi_3.2H_2O$
CAS: 18439-24-2
MW: 821.4

Assay	>=96%
OD250/OD260 (pH 2)	0.80-0.89

Applications: Coenzyme A is used in biochemical research applications.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Cyclopiazonic Acid
White to Off-white Crystals

packaging		Mfr. No
5 mg	PolyMicroTube	**BP630-5**

$C_{20}H_{20}N_2O_3$
CAS: 18172-33-3
MW: 336.39
H301

P301+P310, P302+P352, P280, P312

Assay (TLC-Methylene Chloride:Methanol (9:1))	>=98.0%
Carbon	71.41% ±1%
Hydrogen	5.99% ±0.2%
Maximum Absorbance (lambda Max.)	221 and 281nm
Nitrogen	8.33% ±0.2%
Solubility (10mg/mℓ in Methanol and Methylene Chloride)	To pass test

Applications: Inhibitor of Ca2+-ATPases.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.
UN 2811; DOT Class 6.1:Poison

Copper (II) Sulfate Pentahydrate
Crystalline (Blue)

packaging		Mfr. No
500 g	AmberGlass	**BP346-500**

$CuO_4S.5H_2O$
CAS: 7758-99-8
MW: 249.68
H315, H410, H302, H319

P273, P301+P312, P302+P352, P280, P305+P351+P338

Assay	98.0-102.0%
Calcium (Ca)	<=0.005%
Chloride (Cl)	<=0.001%
Insoluble matter	<=0.005%
Iron	<=0.003%
Nickel	<=0.005%
Nitrogen Compounds (as N)	<=0.002%
Potassium	<=0.01%
Sodium	<=0.02%

Applications: Copper Sulfate is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT
DOT Class 9:Miscellaneous

D-(-)-Arabinose
White Powder

packaging		Mfr. No
25 g	AmberGlass	**BP2504-25**
100 g	AmberGlass	**BP2504-100**
1 kg	AmberGlass	**BP2504-1**

$C_5H_{10}O_5$
CAS: 28697-53-2
MW: 150.13

Assay	>=99%
FTIR	Conforms to standard
Melting Point	153°-164°C
Optical Rotation $\alpha\ ^{25}{}_D$	-97° to -105°

Applications: D-(-)-Arabinose is a component used for culture media.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Cyanocobalamin
Crystalline (Dark Red)

packaging		Mfr. No
1 g	AmberGlass	**BP862-1**

$C_{63}H_{88}CoN_{14}O_{14}P$
CAS: 68-19-9
MW: 1355.38

Assay	>=98%

Applications: Cyanocobalamin is used as a supplement in cell culture and tissue culture media.
Not for human use.
Recommended Storage: -4°C

D-Glycogen
Beef Liver, White to Straw-yellow Crystals

packaging		Mfr. No
5 g	AmberGlass	**BP676-5**

$(C_6H_{10}O_5)n$
CAS: 9005-79-2
EINECS: 9005-79-2

Specific Rotation (c=0.25, H_2O)	+175° ±10°
TLC	Single spot

Applications: Glycogen is used as a carrier in precipitating DNA or RNA in place of sonicated DNA or tRNA.
Recommended Storage: 4°C

D-(-)-Ribose
White to Off-white Powder

packaging		Mfr. No
25 g	AmberGlass	**BP696-25**

$C_5H_{10}O_5$ EINECS: 200-059-4
CAS: 50-69-1
MW: 150.13

Assay	>=98%
Specific Rotation α $^{20}_{D}$	-20° ±1°
Melting Point	88° ±2°C
TLC	Single spot

Applications: This sugar is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

D-(+)-Xylose
White to Off-white Powder

packaging		Mfr. No
250 g	AmberGlass	**BP708-250**

$C_5H_{10}O_5$
CAS: 58-86-6
MW: 150.13

Assay	>=98%
Specific Rotation α $^{20}_{D}$	+20° ±1°
TLC	Single spot

Applications: D-(+)-Xylose is often used as a cell culture additive.
Recommended Storage: RT

D-(+)-Maltose Monohydrate
White to Off-white Powder

packaging		Mfr. No
500 g	AmberGlass	**BP684-500**

$C_{12}H_{22}O_{11}.H_2O$
CAS: 6363-53-7
MW: 360.29

Assay	>=97%
Specific Rotation α $^{20}_{D}$	+130° ±2°
Melting Point	119°-139°C
TLC	Single spot

Applications: Maltose is suitable for use in cell culture systems requiring sugar additives.
Recommended Storage: RT

Dacarbazine
Pale Yellow Powder

packaging		Mfr. No
100 mg	AmberGlass	**BP2513-100**
250 mg	AmberGlass	**BP2513-250**
1 g	AmberGlass	**BP2513-1**
5 g	AmberGlass	**BP2513-5**

$C_6H_{10}N_6O$ EINECS: 224-396-1
CAS: 4342-03-4
MW: 182.19

Applications: Dacarbazine is an alkylating agent used in cancer research. Antineoplastic.
Recommended Storage: 4° C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

D-(+)-Trehalose, Dihydrate
White Powder

packaging		Mfr. No
10 g	PolyBottle	**BP2687-10**
25 g	PolyBag	**BP2687-25**
100 g	PolyBottle	**BP2687-100**
1 kg	PolyBottle	**BP2687-1**

$C_{12}H_{22}O_{11}.2H_2O$ H315
CAS: 6138-23-4 P302+P352
MW: 378.32

Assay	>=98%
FTIR	Conforms to standard
Loss on drying	8.5-10.5%

Applications: D-(+)-Trehalose is used in several biochemical techniques.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

D-Biotin

packaging		Mfr. No
1 g	AmberGlass	**BP232-1**

$C_{10}H_{16}N_2O_3S$
CAS: 58-85-5
MW: 244.31

Assay	>99%
Specific Rotation α $^{20}_{D}$	+89° to +93°
IR	Conforms to standard

Applications: D-Biotin, which forms a stable complex with Avidin, is useful in the study of Avidin-Biotin interactions and in affinity chromatography.
Not for human use.
Recommended Storage: -20°C

Dextrose Anhydrous
Molecular Biology

Crystalline Granules

packaging		Mfr. No
500 g	AmberGlass	**BP350-500**
1 kg	AmberGlass	**BP350-1**

$C_6H_{12}O_6$ EINECS: 200-075-1
CAS: 50-99-7
MW: 180.16

Arsenic	<=0.00004%
Ash	<=0.02%
Assay	>=99.8%
Chloride (Cl)	<=0.01%
Specific Rotation $\alpha\ ^{20}_{D}$	+52.5° to +53.0°
DNase	Not detected
Heavy Metals (Pb)	<=0.0005%
Insolubles	<=0.005%
Iron	<=0.0005%
Moisture (105°C)	<=0.2%
RNase	Not detected
Sulfate and Sulfite	<=0.005%

Applications: Dextrose is often used as a cell culture additive.
Recommended Storage: RT

D-Sucrose
Molecular Biology

packaging		Mfr. No
1 kg	PolyBottle	**BP220-1**
2.5 kg	PolyBottle	**BP220-212**
10 kg	PolyPail	**BP220-10**

$C_{12}H_{22}O_{11}$ EINECS: 200-334-9
CAS: 57-50-1
MW: 342.29

Assay	>=99.9%
Color of a 50% Solution (APHA)	<=10
Specific Rotation $\alpha\ ^{20}_{D}$	+66° to +67°
DNase	Not detected
Insoluble matter	<=0.005%
Invert Sugar	<=0.1%
Iron	<=5ppm
Lead	<=5ppm
Loss on Drying (at 105°C)	<=0.03%
Melting Point	160°-186°C
Protease	Not detected
Residue after ignition	<=0.01%
RNase	Not detected
Titratable Acid	<=0.0008mEq/g

Applications: D-Sucrose is suitable for the preparation of density gradients used in purification of proteins and nucleic acids by ultracentrifugation.
Recommended Storage: RT

DL-Thioctic Acid

packaging		Mfr. No
1 g	AmberGlass	**BP2682-1**
5 g	AmberGlass	**BP2682-5**
25 g	AmberGlass	**BP2682-25**

$C_8H_{14}O_2S_2$
CAS: 1077-28-7
MW: 206.32
EINECS: 214-071-2
H302, H335, H319, H315

P261, P301+P312, P302+P352, P280, P305+P351+P338

Purity	98-99%

Applications: DL-Thioctic Acid is a growth factor for many bacteria and protozoa; prosthetic group, coenzyme, or substrate in plants, microorganisms, and animal tissue.
Recommended Storage: RT

Folic Acid

Yellow to Orange Powder

packaging		Mfr. No
5 g	AmberGlass	**BP2519-5**
10 g	AmberGlass	**BP2519-10**
25 g	AmberGlass	**BP2519-25**
100 g	AmberGlass	**BP2519-100**

$C_{19}H_{19}N_7O_6$
CAS: 59-30-3
MW: 441.4

Assay	>=95%
FTIR	Conforms to standard
Loss on drying	<=8.5%
Residue on Ignition (sulfated)	<=0.3%
UV/VIS lambda max (0.1N NaOH)	256 ± 3nm

Applications: Folic Acid is used in cell culture.
Recommended Storage: RT, protect from light

D-Mannitol

White to Off-white Powder

packaging		Mfr. No
500 g	PolyBottle	**BP686-500**

$C_6H_{14}O_6$
CAS: 69-65-8
MW: 182.17

Assay	>=98%
Specific Rotation $\alpha\ ^{20}_{D}$ (c=8, HCl)	+24° ±1°
Melting Point	165°-168°C
TLC	Single spot

Applications: Mannitol is suitable for use in cell culture systems requiring sugar additives.
Recommended Storage: RT

Upsilon -L-Glutamyl-p-Nitroanilide, Hydrochloride

packaging		Mfr. No
500 mg	AmberGlass	**BP2656-500**
1 g	AmberGlass	**BP2656-1**
5 g	AmberGlass	**BP2656-5**
10 g	AmberGlass	**BP2656-10**
25 g	AmberGlass	**BP2656-25**

$C_{11}H_{13}N_3O_5.ClH$
CAS: 67953-08-6
MW: 303.7

Lambda max (ethanol)	317nm ±5nm
Melting Point	210°-222°C
Optical Rotation $\alpha\ ^{25}_{D}$	+30° ±5°

Applications: Upsilon -L-Glutamyl-p-Nitroanilide, Hydrochloride is a water soluble form of GPNA suitable for use as substrate for Upsilon -glutamyl transpeptidase.
Recommended Storage: 0° to 5°C

Glutathione Reduced
White Crystalline Powder

packaging		Mfr. No
1 g	AmberGlass	**BP2521-1**
5 g	AmberGlass	**BP2521-5**
10 g	AmberGlass	**BP2521-10**
25 g	AmberGlass	**BP2521-25**
50 g	AmberGlass	**BP2521-50**
100 g	AmberGlass	**BP2521-100**

$C_{10}H_{17}N_3O_6S$ EINECS: 200-725-4
CAS: 70-18-8
MW: 307.32

Arsenic	<=1.0%
Assay	>=98.%
Heavy metals	<=10 ppm
Purity	>=98.0
Residue after ignition	<=0.01%
Specific Rotation (at 20°C)	-16° ±5°
Sulfate	<=0.048
Trichloroethylene	<=0.020%

Applications: Glutathione is a useful tripeptide involved in many aspects of metabolism, including transport of Upsilon -glutamyl amino acids and reductive cleavage of disulfide bonds.
Recommended Storage: 4°C

Glycyl-L-Glutamic Acid
White Fluffy Powder

packaging		Mfr. No
100 mg	AmberGlass	**BP2522-100**
500 mg	AmberGlass	**BP2522-500**
1 g	AmberGlass	**BP2522-1**

$C_7H_{12}N_2O_5$ EINECS: 231-019-4
CAS: 7412-78-4
MW: 204.18

Applications: Glycyl-L-Glutamic Acid is used in biochemical research applications.
Recommended Storage: 0°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Hematoxylin Trihydrate
Reddish-tan Powder

packaging		Mfr. No
5 g	AmberGlass	**BP2523-5**
25 g	AmberGlass	**BP2523-25**
100 g	AmberGlass	**BP2523-100**

$C_{16}H_{14}O_6$ EINECS: 208-237-3
CAS: 517-28-2
MW: 302.27

Loss on drying	Report
UV/VIS lambda max (MeOH)	290-292nm

Applications: Hematoxylin Trihydrate is used mainly as a stain in microscopy.
Recommended Storage: RT

Isopropyl-β-D-thiogalactopyranoside
Dioxane-free

packaging		Mfr. No
1 g	AmberGlass	**BP1755-1**
10 g	AmberGlass	**BP1755-10**

$C_9H_{18}O_5S$ EINECS: 206-703-0
CAS: 367-93-1
MW: 238.31

Appearance	White powder or crystals
Assay (TLC)	>99.0%
Specific Rotation $\alpha\ ^{20}_{D}$	-31.5°±3.0°
Melting Point	110° to 114°C
NMR Analysis	Dioxane-free

Applications: Because IPTG induces β-Galactosidase activity in many bacteria, it is used to maximize the expression of cloned genes under control of the lac operon.
Recommended Storage: 4°C

Isopropyl-β-D-thiogalactopyranoside
Dioxane-free

packaging		Mfr. No
100 g	AmberGlass	**BP1755-100**

CAS: 367-93-1
EINECS: 206-703-0

Appearance	White powder or crystals
Assay (TLC)	>99.0%
Specific Rotation $\alpha\ ^{20}_{D}$	-31.5°±3.0°
Melting Point	110° to 114°C
NMR Analysis	Dioxane-free

Applications: Because IPTG induces β-Galactosidase activity in many bacteria, it is used to maximize the expression of cloned genes under control of the lac operon.
Recommended Storage: 4°C

Isopropyl-β-D-thiogalactopyranoside
White Powder, Dioxane Crystallized

packaging		Mfr. No
1 g	AmberGlass	**BP1620-1**
10 g	AmberGlass	**BP1620-10**

$C_9H_{18}O_5S$ EUH019, EUH066
CAS: 367-93-1 P280, P305+P351+P338,
MW: 238.3 P302+P350, P233
EINECS: 206-703-0
H351, H319, H335,

Optical Absorbance of a 5% Aqueous Solution at 300nm	<=0.13
Optical Absorbance of a 5% Aqueous Solution at 400nm	<=0.06
Solubility (5% in H_2O)	To pass test
Specific rotation	-27.0° ±1.0°
TLC	Single spot

Applications: Because IPTG induces β-Galactosidase activity in many bacteria, it is used to maximize the expression of cloned genes under the control of the lac operon.
Recommended Storage: -20°C

Kinetin (6-Furfurylaminopurine)
Off-white to Tan Powder

packaging		Mfr. No
1 g	AmberGlass	BP942-1

$C_{10}H_9N_5O$
CAS: 525-79-1
MW: 215.21
EINECS: 208-382-2
H315, H302, H335, H319

P261, P301+P312, P302+P352, P280, P305+P351+P338

Melting Point	265° ±3°C
TLC	Single spot
UV Extinction in 0.1N NaOH (=272nm)	17.000-18.000

Applications: Kinetin is a cytokine often used in plant cell culture research.
Recommended Storage: RT

L-Alanine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP369-100

$C_3H_7NO_2$
CAS: 56-41-7
MW: 89.09

EINECS: 200-273-8

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation $\alpha\ ^{20}_{D}$	+14.3° to +15.2°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Arginine, Free Base
White Powder

packaging		Mfr. No
100 g	PolyBottle	BP2505-100
500 g	PolyBottle	BP2505-500
1 kg	PolyBottle	BP2505-1

$C_6H_{14}N_4O_2$
CAS: 74-79-3
MW: 174.2
EINECS: 200-811-1

H319
P280, P305+P351+P338

Assay	>=99%
FTIR	Conforms to standard
Moisture	<=0.3%
Optical Rotation (c=1.6, 6N HCl)	+26.3° to +27.7°

Applications: L-Arginine is an essential amino acid used in biochemical research applications.
Recommended Storage: RT

L-Arginine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP370-100

$C_6H_{14}N_4O_2$
CAS: 74-79-3
MW: 174.2
EINECS: 200-811-1

H319
P280, P305+P351+P338

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation $\alpha\ ^{20}_{D}$	+26.9° to +27.9°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.5%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Arginine Hydrochloride
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP372-100

$C_6H_{14}N_4O_2.HCl$
CAS: 1119-34-2
MW: 210.67

EINECS: 214-275-1

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101%
Chloride (Cl)	16.58-17.00%
Specific Rotation $\alpha\ ^{20}_{D}$	+22° to +23° (+26.7° to +27.7° calc. as free base)
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.20%
Other Amino Acids	<1%
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: The hydrochloride salt of L-Arginine is suitable for use in tissue culture systems requiring additives and has many of the same applications as L-Arginine.
Recommended Storage: RT

L-Ascorbic Acid
White Crystalline Powder

packaging		Mfr. No
500 g	AmberGlass	BP351-500

$C_6H_8O_6$
CAS: 50-81-7
MW: 176.13

EINECS: 200-066-2

Assay	>=99.0%
Heavy Metals (Pb)	<=0.002%
Iron	<=0.001%
Residue after ignition	<=0.1%
Specific rotation	+20.5° to +21.5°

Applications: Ascorbic Acid is suitable for use in tissue culture systems requiring additives.
Not for human use.
Recommended Storage: RT

L-Asparagine Monohydrate
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP373-100

$C_4H_8N_2O_3.H_2O$
CAS: 5794-13-8
MW: 150.14

Ammonium (NH_4)	<=0.1%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation α $^{20}_D$	+33.5° to +36.5°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 130°C)	11.5-12.5%
Other Amino Acids	<=1.0%
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Aspartic Acid
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP374-100

$C_4H_7NO_4$ EINECS: 200-291-6
CAS: 56-84-8
MW: 133.1

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-100.5%
Specific Rotation α $^{20}_D$	+24.8° to +25.8°
Heavy Metals (Pb)	<=10ppm
Loss on drying	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Cysteine Hydrochloride Monohydrate
White Crystals

packaging		Mfr. No
100 g	AmberGlass	BP376-100

$C_3H_7NO_2S.HCl.H_2O$ H315, H319, H335
CAS: 7048-04-6 P280, P305+P351+P338
MW: 175.64

Ammonium (NH_4)	<=0.02%
Arsenic (as As_2O_3)	<=1ppm
Assay	98.5-101%
Chloride (Cl)	19.89-20.29%
Specific Rotation α $^{20}_D$ (c=8, HCl)	+5.5° to +7.0° (+8.0° to +10.1° calc. as cysteine)
Heavy Metals (Pb)	<=10ppm
Loss on drying	8.5-12%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Cystine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP377-100

$C_6H_{12}N_2O_4S_2$ P261, P301+P312,
CAS: 56-89-3 P302+P352, P280,
MW: 240.3 P305+P351+P338
EINECS: 200-296-3
H315, H319, H302, H335

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation α $^{20}_D$	-215° to -225°
Heavy Metals (Pb)	<=10ppm
Loss on drying	<=0.30%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Glutamic Acid
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP378-100

$C_5H_9NO_4$ EINECS: 200-293-7
CAS: 56-86-0
MW: 147.13

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	99.0-100.5%
Specific Rotation α $^{20}_D$	+31.5° to +32.5°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.1%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Glutamine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP379-100

$C_5H_{10}N_2O_3$ EINECS: 200-292-1
CAS: 56-85-9
MW: 146.15

Ammonium (NH_4)	<=0.1%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation α $^{20}_D$	+6.3° to +7.3°
Heavy Metals (Pb)	<=10ppm
Loss on drying	<=0.20%
Other Amino Acids	<=1.0%
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=95.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Histidine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP382-100

$C_6H_9N_3O_2$ EINECS: 200-745-3
CAS: 71-00-1
MW: 155.16

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation α $^{20}_D$	+12.5° ±0.5°
Heavy Metals (Pb)	<=10ppm
Loss on drying	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Histidine Hydrochloride Monohydrate
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP383-100

$C_6H_9N_3O_2.HCl.H_2O$
CAS: 5934-29-2
MW: 209.64

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Chloride (Cl)	16.66-17.08%
Specific Rotation α $^{20}_D$	+8.9° to +9.5° (+12.0° to +12.8° calc. as free base)
Heavy Metals (Pb)	<=10ppm
Loss on drying	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: L-Histidine Hydrochloride is suitable for use in tissue culture systems or as an amino acid standard.
Recommended Storage: RT

L-Isoleucine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP384-100

$C_6H_{13}NO_2$
CAS: 73-32-5
MW: 131.17

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation α $^{20}_D$	+39.5° to +41.5°
Heavy Metals (Pb)	<=10ppm
Loss on drying	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Leucine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP385-100

$C_6H_{13}NO_2$
CAS: 61-90-5
MW: 131.17

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation α $^{20}_D$	+14.9° to +16.1°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.2%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Lysine Hydrochloride
White Powder

packaging		Mfr. No
100 g	AmberGlass	BP386-100

$C_6H_{14}N_2O_2.HCl$ EINECS: 211-519-9
CAS: 657-27-2
MW: 182.65

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-100.5%
Chloride (Cl)	19.12-19.51%
Specific Rotation α $^{20}_D$	+20.7° to +21.5° (+25.9° to 26.9° calc. as free base)
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.40%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Methionine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP388-100

$C_5H_{11}NO_2S$ EINECS: 200-562-9
CAS: 63-68-3
MW: 149.21

Ammonium (NH_4)	<=0.02%
Arsenic	<=1 ppm
Assay	98.5-100.5%
Specific Rotation α $^{20}_D$	+23.0° to +24.5°
Heavy Metals (Pb)	<=10 ppm
Loss on Drying (at 105°C)	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Ornithine Hydrochloride
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP389-100

$C_5H_{12}N_2O_2.HCl$ EINECS: 221-678-6
CAS: 3184-13-2
MW: 168.62

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation α $^{20}_D$	+23.0° to +25.0° (+29.3° to +31.9° calc. as free base)
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Serine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP393-100

$C_3H_7NO_3$ EINECS: 200-274-3
CAS: 56-45-1
MW: 105.09

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation α $^{20}_D$	+14.4° to +15.5°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Phenylalanine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP391-100

$C_9H_{11}NO_2$ EINECS: 200-568-1
CAS: 63-91-2
MW: 165.19

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-100.5%
Specific Rotation α $^{20}_D$	-33.5° to -35.0°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Threonine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP394-100

$C_4H_9NO_3$
CAS: 72-19-5
MW: 119.12

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-100.5%
Specific Rotation α $^{20}_D$	-27.6° to -29.0°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Proline
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP392-100

$C_5H_9NO_2$ EINECS: 205-702-2
CAS: 147-85-3
MW: 115.13

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-101.0%
Specific Rotation α $^{20}_D$	-84.5° to -86.0°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.30%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Tryptophan
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	BP395-100

$C_{11}H_{12}N_2O_2$
CAS: 73-22-3
MW: 204.23

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-100.5%
Specific Rotation α $^{20}_D$	-30° to -33°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=95.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Tyrosine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	**BP396-100**

$C_9H_{11}NO_3$
CAS: 60-18-4
MW: 181.19
H335, H319, H315

P261, P302+P352, P280, P305+P351+P338

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-100.5%
Specific Rotation $\alpha\ ^{20}_{D}$	-11.3° to -12.1°
Heavy Metals (Pb)	<=10ppm
Loss on drying	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=95.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

L-Valine
White Crystals or Crystalline Powder

packaging		Mfr. No
100 g	AmberGlass	**BP397-100**

$C_5H_{11}NO_2$
CAS: 72-18-4
MW: 117.15

Ammonium (NH_4)	<=0.02%
Arsenic	<=1ppm
Assay	98.5-100.5%
Specific Rotation $\alpha\ ^{20}_{D}$	+27.6° to +29.0°
Heavy Metals (Pb)	<=10ppm
Loss on Drying (at 105°C)	<=0.20%
Other Amino Acids	Chromatographically not detectable
Residue on Ignition (sulfated)	<=0.10%
State of Solution	>=98.0% transmittance

Applications: This amino acid is suitable for use in tissue culture systems requiring additives.
Recommended Storage: RT

Lymphocyte Separation Medium

packaging		Mfr. No
500 mℓ	PolyBottles	**BP2663-500**

Applications: LSM is formulated for isolation of mononuclear cells from defribinated or heparinized whole human blood.
One-step centrifugation permits separation of mononuclear lymphocytes from erythrocytes, polynuclear lymphocytes and most platelets.
LSM is a sterile-filtered solution of a sucrose polymer and diatrizoate salts at a specific gravity of 1.077-1.080 g/mℓ at 20°C.
Recommended Storage: 0° to 5°C

Methotrexate
Yellow Powder

packaging		Mfr. No
10 mg	AmberGlass	**BP2665-10**
100 mg	AmberGlass	**BP2665-100**

$C_{20}H_{22}N_8O_5.2H_2O$
CAS: 59-05-2
MW: 490.47
H340, H301, H360FD,

H315, H319, H335
P281, P305+P351+P338, P308+P313

Chromatographic Purity	Pass test
Moisture	<12%
Organic Volatile Impurities	Pass test
Purity	>98%
Residue after ignition	<0.1%
Specific rotation	+19° to +24°

Applications: Methotrexate is a folic acid antagonist.
Recommended Storage: 0°C
UN 2811; DOT Class 6.1:Poison

Methyl α-D-Mannopyranoside
White Crystalline Powder

packaging		Mfr. No
10 g	AmberGlass	**BP2530-10**
25 g	AmberGlass	**BP2530-25**
100 g	AmberGlass	**BP2530-100**
500 g	AmberGlass	**BP2530-500**

$C_7H_{14}O_6$
CAS: 617-04-9
MW: 194.18

Assay	>=99%
FTIR	Conforms to standard
Loss on drying	<0.5%
Melting Point	187-197°C
Optical Rotation $\alpha\ ^{25}_{D}$	+76° to +85°

Applications: Methyl α-D-Mannopyranoside is used in biochemical research applications.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Nitro Blue Tetrazolium

packaging		Mfr. No
1 g	AmberGlass	**BP108-1**

$C_{40}H_{30}Cl_2N_{10}O_6$
CAS: 298-83-9
MW: 817.65
EINECS: 206-067-4

H319, H335, H315, H302
P312, P270, P264, P261, P280, P305+P351+P338

$E^{1\%}_{1cm}$	>=650 g-1cm-1 min
Lambda Max.	260nm±2nm
Solubility	To pass test

Applications: Used in conjunction with BCIP as a substrate for acid and alkaline phosphatases.
Recommended storage: 4 C

Nitrilotriacetic Acid
Certified ACS
White Powder

packaging		Mfr. No
100 g	PolyBottle	**BP2670-100**
500 g	PolyBottle	**BP2670-500**
1 kg	PolyBottle	**BP2670-1**

$C_6H_9NO_6$
CAS: 139-13-9
MW: 191.14
EINECS: 205-355-7
H319, H302, H315, H351

P281, P301+P312, P302+P352, P280, P305+P351+P338

Purity ..... >=98%

Applications: Nitrilotriacetic Acid is a chelating and sequestering agent. A builder in synthetic detergents.
Recommended Storage: RT

o-Phenylenediamine
Tan to Brown Solid

packaging		Mfr. No
50 g	AmberGlass	**BP2537-50**
250 g	AmberGlass	**BP2537-250**
1 kg	AmberGlass	**BP2537-1**

$C_6H_8N_2$
CAS: 95-54-5
MW: 108.14

EINECS: 202-430-6

FTIR ..... Conforms to standard
Melting Point ..... Report

Recommended Storage: RT
UN 1673; DOT Class 6.1:Poison
Free Base

Phosphate Buffered Saline
10X Solution

packaging		Mfr. No
500 mℓ	PolyBottle	**BP399-500**
1 ℓ	PolyBottle	**BP399-1**
4 ℓ	PolyPac*	**BP399-4**
20 ℓ	PolyPac*	**BP399-20**

Chloride Concentration of a 1X Solution ..... 0.140 ±0.004 moles/ℓ
Conductivity of a 1X Solution ..... 14.000 to 17.800µmhos
DNase ..... Not detected
pH of 10X solution (at 25°C) 6.7-6.9
pH of 1X solution (at 25°C) 7.3-7.5
Protease ..... Not detected
RNase ..... Not detected

Applications: A concentrated, standard phosphate buffer solution.
Components: 1.37M Sodium Chloride, 0.027M Potassium Chloride, and 0.119M Phosphate Buffer [7647-14-5 (Sodium Chloride)] ; [7447-40-7 (Potassium Chloride)] ; [7558-79-4 (Sodium Phosphate Dibasic)] ; [7778-77-0 (Potassium Phosphate Monobasic)]
Recommended Storage: RT

Phosphate Buffered Saline
1X Solution

packaging		Mfr. No
4 ℓ	PolyPac*	**BP2438-4**
20 ℓ	PolyPac*	**BP2438-20**

Chloride Concentration of a 1X Solution ..... 0.140 ±0.004 moles/ℓ
Conductivity of a 1X Solution ..... 14.000 to 17.800µmhos/cm
DNase ..... Not detected
pH of 1X solution (at 25°C) 7.3-7.5
Protease ..... Not detected
RNase ..... Not detected

Applications: A standard phosphate buffer used in many biomolecular procedures.
Components:0.137M Sodium Chloride, 0.0027M Potassium Chloride, and 0.0119M Phosphates.
[7647-14-5 (Sodium Chloride)] ; [7447-40-7 (Potassium Chloride)] ; [7558-79-4 (Sodium Phosphate Dibasic)] ; [7778-77-0 (Potassium Phosphate Monobasic)]
Recommended Storage: RT
Filtered through a 0.2-micron filter.

Phorbol 12-Myristate 13-Acetate
Clear or Whitish Film

packaging		Mfr. No
1 mg	GlassAmpule	**BP685-1**
5 mg	GlassAmpule	**BP685-5**
10 mg	GlassAmpule	**BP685-10**

$C_{36}H_{56}O_8$
CAS: 16561-29-8
MW: 616.84

H315, H312
P302+P352, P280

Assay (HPLC) ..... >=99.0%
NMR ..... Identical to standard reference
Solubility (in DMSO, Methanol, Ethanol, Acetone, Ether, and DMF) ..... To pass test

Applications: PMA is an activator of Protein Kinase C; it is a skin irritant and mouse skin tumor promoter.
Film adheres to inside of vial.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Pleiotrophin
Human, Recombinant

packaging		Mfr. No
50 µg	PolyMicroTube	**BP2536-50**

Assay ..... >=97%
description ..... White Lyophilized Powder

Applications: Pleiotrophin is a biochemical that enhances neurite outgrowth of cerebral cortical neurons.
Sf 21 Expressed.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Polyethylene Glycol 8000

packaging		Mfr. No
100 g	AmberGlass	**BP233-100**
1 kg	PolyBottle	**BP233-1**

$H(OCH_2CH_2)nOH$
CAS: 25322-68-3
MW: 7000-8000

description	White powder
Identification	Pass test

Applications: PEG 8000 is suitable as a medium for the fusion of mammalian cells. It is also used to precipitate bacteriophage from lysed cell supernatants.
Recommended Storage: RT

Pyridoxine Hydrochloride
White Powder

packaging		Mfr. No
10 g	AmberGlass	**BP2677-10**
50 g	AmberGlass	**BP2677-50**
100 g	AmberGlass	**BP2677-100**

$C_8H_{11}NO_3.HCl$
CAS: 58-56-0
MW: 205.64
H335, H315, H319

P261, P302+P352, P280, P305+P351+P338

Chloride Content	16.9-17.6 on dried basis
FTIR	Conforms to standard
Heavy Metals (Pb)	<=0.003%
Loss on drying	<=0.5%
Melting Point	202°-214°C
pH (10% aqueous)	2.0-4.0
Purity	>=98%
Residue on Ignition (sulfated)	<=0.1%

Applications: Pyridoxine HCl is used as a vitamin (enzyme cofactor).
Recommended Storage: RT, protect from light.

Riboflavin
Fine, Orange-yellow Crystals

Electrophoresis

packaging		Mfr. No
50 g	AmberGlass	**BP167-50**

$C_{17}H_{20}N_4O_6$
CAS: 83-88-5
MW: 376.36

EINECS: 201-507-1

Assay (by UV-VIS)	>=95%
Electrophoresis	To pass test

Applications: Riboflavin is a photoinitiator of acrylamide/bis-acrylamide polymerization.
Not for human use.
Recommended Storage: RT

Sodium Oxalate
White Crystals or Powder

packaging		Mfr. No
500 g	PolyBottle	**BP353-500**

$C_2Na_2O_4$
CAS: 62-76-0
MW: 134

Ammonium (NH_4)	<=0.002%
Assay	>=99.0%
Chloride (Cl)	<=0.002%
Heavy Metals (Pb)	<=0.002%
Insoluble matter	<=0.005%
Iron	<=0.001%
Loss on Drying (at 105°C)	<=0.05%
Neutrality	To pass test
Potassium	<=0.005%
Substances Darkened by Hot H_2SO_4	To pass test
Sulfate (SO_4)	<=0.002%

Applications: This sodium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT
UN 2811; DOT Class 6.1:Poison

Sodium Pyruvate
White Powder

packaging		Mfr. No
100 g	AmberGlass	**BP356-100**

$C_3H_3NaO_3$
CAS: 113-24-6
MW: 110.04
EINECS: 204-024-4

H319, H315
P302+P352, P280, P305+P351+P338

Assay (by titration)	>=99%
Free Acid (as Pyruvic Acid)	<=1.0%
Solubility (6g/100mℓ H_2O)	Clear, haze-free

Applications: This sodium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT

Sodium Sulfate Anhydrous
White Granules

packaging		Mfr. No
500 g	AmberGlass	**BP354-500**

Na_2O_4S
CAS: 7757-82-6
MW: 142.04

Assay	>=99.0%
Calcium (Ca)	<=0.01%
Chloride (Cl)	<=0.001%
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.01%
Iron	<=0.001%
Loss on ignition	<=0.5%
Magnesium (Mg)	<=0.005%
Nitrogen Compounds (as N)	<=5ppm
pH of 5% Solution (at 25°C)	5.2-9.2
Phosphate (PO_4)	<=0.001%
Potassium	<=0.01%

Applications: This sodium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT

Sodium Sulfite Anhydrous
White Crystals or Crystalline Powder

packaging		Mfr. No
500 g	AmberGlass	**BP355-500**

Na_2O_3S
CAS: 7757-83-7
MW: 126.04

Assay	>=98.0%
Chloride (Cl)	<=0.02%
Free Acid	To pass test
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.005%
Iron	<=0.001%
Phosphate (PO_4)	<=5ppm
Titratable Free Base	<=0.03mEq/g

Applications: This sodium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT

Sodium Tartrate Dihydrate
Colorless Crystals

packaging		Mfr. No
500 g	AmberGlass	**BP352-500**

$C_4H_4Na_2O_6.2H_2O$
CAS: 6106-24-7
MW: 230.08

Ammonium (NH_4)	<=0.003%
Assay	99.0-101.0%
Calcium (Ca)	<=0.01%
Chloride (Cl)	<=0.005%
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.005%
Iron	<=0.001%
Loss on Drying (at 150°C)	15.61-15.71%
pH of 5% Solution (at 25°C)	7.0 to 9.0
Phosphate (PO_4)	<=5ppm
Sulfate (SO_4)	<=0.005%

Applications: This sodium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT

Succinic Acid
White Crystals

packaging		Mfr. No
500 g	AmberGlass	**BP336-500**

$C_4H_6O_4$
CAS: 110-15-6
MW: 118.09
EINECS: 203-740-4

H335, H319, H315
P261, P302+P352, P280, P305+P351+P338

Arsenic	<=0.0003%
Ash	<=0.025%
Assay	>=99.5%
Heavy Metals (Pb)	<=0.001%
Melting Range	185°-190°C

Applications: Succinic Acid is used in the preparation of cell culture and tissue culture media.
Recommended Storage: RT

Thiamine Hydrochloride
White Powder

packaging		Mfr. No
100 g	AmberGlass	**BP892-100**

$C_{12}H_{17}ClN_4OS.HCl$
CAS: 67-03-8
MW: 337.26
EINECS: 200-641-8

H335, H319, H315
P261, P302+P352, P280, P305+P351+P338

Assay	>=98%
Nitrate	None detected
Residue after evaporation	<=0.2%
Water	<=6.0%

Applications: This vitamin is suitable for use in systems requiring additives. Not for human use.
Recommended Storage: RT

Thimerosal
White Powder

packaging		Mfr. No
10 g	AmberGlass	**BP2542-10**
25 g	AmberGlass	**BP2542-25**
100 g	AmberGlass	**BP2542-100**
500 g	AmberGlass	**BP2542-500**

$C_9H_9HgNaO_2S$
CAS: 54-64-8
MW: 404.8
EINECS: 200-210-4

H310, H330, H373, H410, H300
P260, P280, P301+P310, P302+P350, P304+P340, P273

Assay (anhydrous)	>=97%
Loss on drying	<=0.5%
Melting Point	225°-236°C
pH of 1% Aqueous Solution	6.0-7.4

Recommended Storage: RT, protect from light, desiccate.

Transferrin From Guinea Pig
Golden-Tan Frozen Liquid

packaging		Mfr. No
1 mg	AmberGlass	**BP2544-1**
5 mg	AmberGlass	**BP2544-5**
10 mg	AmberGlass	**BP2544-10**

Assay	>=98%
Sterility	To pass test

Applications: Transferrin is an iron binding protein that displays bacteriostatic and fungistatic characteristics.
Purified by affinity chromatography; sterile filtered; concentrated.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Vimentin
From Bovine Lens

packaging		Mfr. No
100 µg	PolyMicroTube	**BP2545-100**
250 µg	PolyMicroTube	**BP2545-250**

CAS: 156289-80-4
MW: 57

Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

5-Bromo-4-chloro-3-indolyl- β-D-galactopyranoside

packaging		Mfr. No
100 mg	AmberGlass	**BP1615-100**
1 g	AmberGlass	**BP1615-1**

$C_{14}H_{15}BrClNO_6$
CAS: 7240-90-6
MW: 408.63

IR	Conforms to standard
Molar Extinction (292±2nm)	>=4000ℓ g-1cm-1
Solubility (5% in DMF)	Clear and colorless
Specific Rotation (c=0.1, 50% DMF)	-60° ±4°
TLC	Single spot

Applications: X-Gal is a chromogenic substrate for the enzyme β-Galactosidase used in the detection of recombinant bacteriophage. It is also used for immunoblotting and immunocytochemical assays.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Toluidine Blue O

packaging		Mfr. No
10 g	AmberGlass	**BP107-10**

$C_{15}H_{16}ClN_3S$ H302
CAS: 92-31-9 P301+P312
MW: 305.82

$E^{1\%}_{1cm}$	>=700ℓ g-1cm-1
Lambda Absorption Max.	620-638nm
Loss on Drying (at 105°C)	<=10%
Solubility	To pass test

Applications: Nuclear stain that may be used as an alternative to Methylene Blue
Recommended storage: RT
C.I. 52040

Ethylene Glycol

packaging		Mfr. No
1 ℓ	AmberGlass,EcoSafPak*	**BP230-1**
4 ℓ	AmberGlass,EcoSafPak*	**BP230-4**

$C_2H_6O_2$ H302
CAS: 107-21-1 P280, P301+P310
MW: 62.06
EINECS: 203-473-3

Assay	>=99%
Boiling Range	196°-199°C
Color (APHA)	<=10
Iron	<=5ppm
Titratable Acid	0.002mEq/g
Water	<=0.5%

Applications: Due to its property as an antifreeze, Ethylene Glycol may be used for the storage of enzymes at low temperatures.
Recommended Storage: RT
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Acridine Orange Hemizinc Salt

packaging		Mfr. No
10 g	AmberGlass	**BP116-10**

$C_{17}H_{19}N_3.HCl.0.5ZnCl_2$ H341, H302, H312, H332
CAS: 10127-02-3 P280
MW: 369.94
EINECS: 233-353-6

$E^{1\%}_{1cm}$	>=1100ℓ g-1cm-1
Lambda Max.	490nm ±2nm
Loss on Drying (at 105°C)	<=5%
Solubility	To pass test

Recommended storage: RT
C.I. 46005

Eosin Y
Disodium Salt

packaging		Mfr. No
25 g	AmberGlass	**BP2419-25**
100 g	AmberGlass	**BP2419-100**

$C_{20}H_6Br_4Na_2O_5$ H319
CAS: 17372-87-1 P280, P305+P351+P338
MW: 691.85
EINECS: 241-409-6

Assay	>=88%
Certification as Biological Stain	To pass test

Applications: Eosin Y is used in microbiological differential media or as a biological stain.
Recommended Storage: RT
C.I. 45380

Fast Green FCF

packaging		Mfr. No
10 g	AmberGlass	BP123-10

$C_{37}H_{34}N_2Na_2O_{10}S_3$
CAS: 2353-45-9
MW: 808.84
EINECS: 219-091-5

H341
P201, P202, P281,
P308+P313

Assay	>=90.0%
Lambda Max.	622nm ±2nm

Recommended storage: RT
C.I. 42053

Giemsa Stain
Crystalline

packaging		Mfr. No
5 g	AmberGlass	BP2422-5
10 g	AmberGlass	BP2422-10

$C_{14}H_{14}ClN_3S$
CAS: 51811-82-6
MW: 291.80

EINECS: 257-438-2

Certification as Biological Stain	To pass test

Applications: Giemsa is a biological stain used for thin blood films to differentiate leukocytes, for staining malarial parasites in thin and thick blood films, and for staining bone marrow to show cell morphology.
Recommended Storage: RT

Glutaraldehyde Solution
25%

packaging		Mfr. No
1 ℓ	AmberGlass,EcoSafPak*	BP2548-1
4 ℓ	AmberGlass,EcoSafPak*	BP2548-4

$C_5H_8O_2$
CAS: 111-30-8
MW: 100.12
EINECS: 203-856-5
H302, H331, H317, H314,

H334, H400
P301+P330+P331,
P305+P351+P338, P310,
P280, P260,
P273

Assay	24.0-26.5%
Color (APHA)	<=20

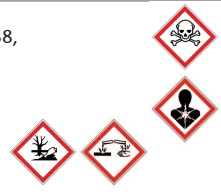
Recommended Storage: RT
UN 2810; DOT Class 6.1:Poison
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Glutaraldehyde Solution
50%

packaging		Mfr. No
1 ℓ	AmberGlass,EcoSafPak*	BP2547-1

$C_5H_8O_2$
CAS: 111-30-8
MW: 100.12
EINECS: 203-856-5
H317, H335, H314, H334,

H301, H331, H400
P280, P305+P351+P338,
P270, P260, P273,
P308+P313



Assay	49.0-52.0%
Clarity of Solution	To pass test
Color (APHA)	<=125
pH (at 25°C)	3.7-4.5
Specific Gravity (at 20°C)	1.125-1.135

Recommended Storage: 4°C
UN 2927; DOT Class 6.1:Poison
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Hematoxylin
Crystalline

packaging		Mfr. No
25 g	AmberGlass	BP2424-25
100 g	AmberGlass	BP2424-100

$C_{16}H_{14}O_6$
CAS: 517-28-2
MW: 302.27

EINECS: 208-237-3

Certification as Biological Stain	To pass test

Applications: Hematoxylin is used as a stain in microscopy.
Recommended Storage: RT
C.I. 75290

Methylene Blue

packaging		Mfr. No
100 g	AmberGlass	BP117-100

$C_{16}H_{18}ClN_3S$
CAS: 61-73-4
MW: 319.85

H302
P301+P312

$E^{1\%}_{1cm}$	>=2000g-1cm-1
Lambda Max.	662nm±2nm
Loss on Drying (at 105°C)	8-18%
Solubility	To pass test

Recommended storage: RT
C.I. 52015

2M Calcium Chloride Solution
Microbial Cell Culture

packaging		Mfr. No
5x10mℓ	Poly Bottle	BP9742-10X5

$CaCl_2$
CAS: 10035-04-08 (Calcium Chloride Dihydrate),
7732-18-5 (Water)

MW: 110.99
H319
P280+P305+P351+P338

Appearance	Clear solution
Cell culture tested-MTT	To pass test
Sterility	To pass test

Applications: Preparation of competent E. coli strains
Components: Calcium Chloride: 294g/ℓ
Recommended storage: RT

2M Magnesium Chloride Solution
Microbial Cell Culture

packaging		Mfr. No
5x10mℓ	Poly Bottle	**BP9741-10X5**

$MgCL_2$
CAS: 7791-18-6
(Magnesium Chloride Hexahydrate), 7732-18-5 (Water)

MW: 95.21
H319
P280+P305+P351+P338

Appearance	Clear solution
Cell culture tested-MTT	To pass test
Sterility	To pass test

Applications: Preparation of competent E. coli strains
Components: Magnesium Chloride: 406.6g/ℓ
Recommended storage: RT

2xYT Agar Molecular Genetics
Powder

packaging		Mfr. No
100 g	PolyBottle	**BP2466-100**
500 g	PolyBottle	**BP2466-500**
2 kg	PolyBottle	**BP2466-2**

CAS: 9002-18-0

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: 2xYT Agar is used for growth of hosts for replication of M13 vectors and plating.
Components in g/ℓ:Tryptone: 16g; Yeast Extract: 10g; NaCl: 5g; Agar:15g
Recommended Storage: RT

2X YT Broth Molecular Genetics
Powder

packaging		Mfr. No
100 g	PolyBottle	**BP2467-100**
500 g	PolyBottle	**BP2467-500**
2 kg	PolyBottle	**BP2467-2**
10 kg	PolyPail	**BP2467-10**

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: 2X YT Broth is used for growth of hosts for replication of M13 vectors.
Components in g/ℓ:Tryptone: 16g; Yeast Extract: 10g; NaCl: 5g
Recommended Storage: RT

2 XYT Broth
Capsules

packaging	Mfr. No
32x15.5 g Poly Bottle	**BP9736-500**

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2]

Appearance	Capsules
Color (prepared media)	Light to medium amber
E.coli test	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures; dust-free granules allow for easy weighing.
Description: Contains 32 x 15.5g capsules; Use two capsules to make 1ℓ broth
Components: (per liter) Peptone: 16g; Yeast Extract: 10g; Sodium Chloride: 5g
Recommended storage: RT

Agar
(80-100 Mesh)

packaging		Mfr. No
100 g	PolyBottle	**BP2641-100**
500 g	PolyBottle	**BP2641-500**
1 kg	PolyBottle	**BP2641-1**

CAS: 9002-18-0

Acid Insoluble Ash	<=0.5%
Arsenic	<=3ppm
Foreign Insoluble Matter	<=1.0%
Foreign Organic Matter	<=1.0%
Foreign Starch	To pass test
Gelatin	To pass test
Heavy Metals (Pb)	<=40ppm
Identity Test A	To pass test
Identity Test B	To pass test
Lead	<=10ppm
Microbial Limits (Salmonella)	Negative
Organic Volatile Impurities	To pass test
Total Ash (Dry Weight Basis)	<=6.5%
Water	<=20%
Water Absorption	To pass test

Agar Molecular Genetics
Granulated

packaging		Mfr. No
500 g	PolyBottle	**BP1423-500**
2 kg	PolyPail	**BP1423-2**

CAS: 9002-18-0

Gelling Point	32°-39°C
Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found
Melting Point	83°-89°C

Applications: Agar, Granulated, is used as a solidifying agent in preparing microbiological culture media.
Recommended Storage: RT

LB Broth, Lennox — Large Granules

packaging		Mfr. No
2 kg	Poly Pail	BP9722-2
500 g	Poly Bottle	BP9722-500

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2]

Color (APHA)	Light beige
E.coli test	To pass test
particle size	1 to 2 mm

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures; dust-free granules allow for easy weighing.
Components: (per liter) Peptone: 10g; Yeast Extract: 5g; Sodium Chloride: 5g
Recommended storage: RT

LB Broth, Lennox — Pre-Buffered Capsules

packaging	Mfr. No
500 x 1 g Capsules	BP9733-500

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2; Tris/Tris HCl: 77-86-1; 1185-53-1]
H315, H319
P280+P302+P352, P305+P351+P338

Appearance	Capsules
Color (prepared media)	Yellow to gold
E.coli test	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Components: (per liter) Peptone: 10g; Yeast Extract: 5g; Sodium Chloride: 5g; Tris/Tris-HCl: 1.5g
Recommended storage: RT

LB Broth, Lennox — Capsules

packaging	Mfr. No
25x20 g Capsules	BP9730-500

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2; Tris/Tris HCl: 77-86-1; 1185-53-1]
H315, H319
P280+P302+P352, P305+P351+P338

Appearance	Capsules
Color (prepared media)	Yellow to gold
E.coli test	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Components: (per liter) Peptone: 10g; Yeast Extract: 5g; Sodium Chloride: 5g; Tris/Tris-HCl: 1.5g
Recommended storage: RT

LB Broth, Lennox Molecular Genetics — Powder

packaging		Mfr. No
500 g	PolyBottle	BP1427-500
2 kg	PolyPail	BP1427-2

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: LB (Luria-Bertani) Broth, Lennox, is used for the culturing of E. coli in molecular biology procedures.
Components: (per liter) Tryptone 10g; Yeast Extract 5g; Sodium Chloride 5g
pH:7.0±0.2 at 25°C
Recommended Storage: RT

LB Broth, Miller Molecular Genetics — Granular

packaging		Mfr. No
500 g	PolyBottle	BP1426-500
2 kg	PolyPail	BP1426-2

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: LB (Luria-Bertani) Broth, Miller, is used for the culturing of E. coli in molecular biology procedures.
Components: (per liter) Tryptone 10g; Yeast Extract 5g; Sodium Chloride 10g
pH:7.0±0.2 at 25°C
Recommended Storage: RT

LB Agar, Miller — Large Granules

packaging		Mfr. No
2 kg	Poly Pail	BP9724-2
500 g	Poly Bottle	BP9724-500

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2; Agar: 9002-18-0]

Color (APHA)	Light beige
E.coli test	To pass test
particle size	1 to 2 mm

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures; dust-free granules allow for easy weighing.
Components: (per liter) Peptone: 10g; Yeast Extract: 5g; Sodium Chloride: 10g; Agar: 12g
Recommended storage: RT

LB Agar, Miller — Pre-Buffered Capsules

packaging		Mfr. No
500x1 g	Capsules	**BP9735-500**

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2; Agar: 9002-18-0; Tris/Tris HCl: 77-86-1; 1185-53-1]

Appearance	Capsules
Color (prepared media)	Yellow to gold
E.coli test	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Components: (per liter) Peptone: 10g; Yeast Extract: 5g; Sodium Chloride: 10g; Agar: 15g; Tris/Tris-HCl: 1.5g
Recommended storage: RT

LB Broth, Miller — Pre-Buffered Capsules

packaging		Mfr. No
500x1 g	Capsules	**BP9732-500**

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2; Tris/Tris HCl: 77-86-1; 1185-53-1]
H315, H319
P280+P302+P352, P305+P351+P338

Appearance	Capsules
Color (prepared media)	Yellow to gold
E.coli test	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Components: (per liter) Peptone: 10g; Yeast Extract: 5g; Sodium Chloride: 10g; Tris/Tris-HCl: 1.5g
Recommended storage: RT

LB Agar, Miller — Pre-Buffered Capsules

packaging		Mfr. No
25x20 g	Capsules	**BP9734-500**

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2; Agar: 9002-18-0; Tris/Tris HCl: 77-86-1; 1185-53-1]

Appearance	Capsules
Color (prepared media)	Yellow to gold
E.coli test	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Components: (per liter) Peptone: 10g; Yeast Extract: 5g; Sodium Chloride: 10g; Agar: 15g; Tris/Tris-HCl: 1.5g
Recommended storage: RT

LB Broth, Miller — Pre-Buffered Capsules

packaging		Mfr. No
25x20 g	Capsules	**BP9731-500**

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2; Tris/Tris HCl: 77-86-1; 1185-53-1]
H315, H319
P280+P302+P352, P305+P351+P338

Appearance	Capsules
Color (prepared media)	Yellow to gold
E.coli test	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Components: (per liter) Peptone: 10g; Yeast Extract: 5g; Sodium Chloride: 10g; Tris/Tris-HCl: 1.5g
Recommended storage: RT

LB Broth, Miller — Large Granules

packaging		Mfr. No
2 kg	Poly Pail	**BP9723-2**
500 g	Poly Bottle	**BP9723-500**

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2]

Color (APHA)	Light beige
E.coli test	To pass test
particle size	1 to 2 mm

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures; dust-free granules allow for easy weighing.
Components: (per liter) Peptone: 10g; Yeast Extract: 5g; Sodium Chloride: 10g
Recommended storage: RT

NZCYM Broth Molecular Genetics
Powder

packaging		Mfr. No
100 g	PolyBottle	**BP2464-100**
500 g	PolyBottle	**BP2464-500**
2 kg	PolyBottle	**BP2464-2**
10 kg	PolyPail	**BP2464-10**

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: NZCYM Broth is used for the maintenance and propagation of bacteriophage lambda.
Components: (per liter) Tryptone 10g; Yeast Extract 5g; Casamino Acids 1g; NaCl 5g; $MgSO_4$ 1g
Recommended Storage: RT

NZY Broth Molecular Genetics
Powder

packaging		Mfr. No
100 g	PolyBottle	**BP2465-100**
500 g	PolyBottle	**BP2465-500**
2 kg	PolyBottle	**BP2465-2**
10 kg	PolyPail	**BP2465-10**

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: NZY Broth is used for the maintenance and propagation of bacteriophage lambda.
Components: (per liter) Tryptone 10g; Yeast Extract 5g; NaCl 5g; $MgSO_4$ 2g
Recommended Storage: RT

Peptone Molecular Genetics
Powder

packaging		Mfr. No
100 g	PolyBottle	**BP1420-100**
500 g	PolyBottle	**BP1420-500**
2 kg	PolyBottle	**BP1420-2**

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: Peptone contains nitrogen in a form readily available to bacteria.
Recommended Storage: RT

Peptone
Large Granules

packaging		Mfr. No
500 g	Poly Bottle	**BP9725-500**
2 kg	Poly Pail	**BP9725-2**

CAS: 73049-73-7

Ash	<=15%
Color (APHA)	Light beige
Moisture	<=5%
particle size	1 to 2 mm
pH of a 2% solution	Inclusive between 6.5-7.5
Total nitrogen content	>=10%

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures; dust-free granules allow for easy weighing.
Description: Mixture of peptides and free amino acids from pancreatic hydrolysis of animal tissue; pH (at 25°C, 2% Solution): 6.5 to 7.5
Recommended storage: RT

SOB Broth
Capsules

packaging		Mfr. No
36x14 g	Capsules	**BP9737-500**

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2; Magnesium Sulfate: 7487-88-9; Potassium Chloride: 7447-40-7]

Appearance	Capsules
Color (prepared media)	Light to medium amber
E.coli test	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Components: (per liter) Peptone: 20g; Yeast Extract: 5g; Sodium Chloride: 0.5g; Magnesium Sulfate: 2.4g; Potassium Chloride: 0.186g
Recommended storage: RT

SOC Medium

packaging		Mfr. No
5x10mℓ	Poly Bottle	**BP9740-10X5**

CAS: [Peptone: 91079-40-2; Sodium Chloride: 7647-14-5; Yeast Extract: 8013-01-2; Magnesium Sulfate: 7487-88-9; Potassium Chloride: 7447-40-7; Magnesium Chloride: 7786-30-3; Glucose: 50-99-7]

Color (APHA)	Yellow to light brown
pH test	To pass test
Sterility	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Components: Peptone: 20g/ℓ, Yeast Extract: 5g/ℓ, Sodium Chloride: 0.58g/ℓ, Potassium Chloride: 0.19g/ℓ, Magnesium Chloride: 0.95g/ℓ, Magnesium Sulfate: 1.2g/ℓ, Glucose: 3.6g/ℓ
Recommended storage: 4°C

Terrific Broth Molecular Genetics
Powder

packaging		Mfr. No
100 g	PolyBottle	**BP2468-100**
500 g	PolyBottle	**BP2468-500**
2 kg	PolyBottle	**BP2468-2**
10 kg	PolyPail	**BP2468-10**

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: Terrific broth is a buffered enriched medium used to obtain high yields of plasmid DNA from transformed E. coli.
Components: (per liter) Tryptone 12g; Yeast Extract 24g; K2HPO4 12.5g; KH2PO4 2.3g
Recommended Storage: RT

Terrific Broth, Modified — Capsules

packaging		Mfr. No
25x24 g	Poly Bottle	**BP9729-600**

CAS: [Peptone: 91079-40-2; Yeast Extract: 8013-01-2; Potassium Phosphate, Monobasic: 7778-77-0; Potassium Phosphate, Dibasic: 7758-11-4]

Appearance	Capsules
Color (prepared media)	Light to medium amber
E.coli test	To pass test

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Description: Contains 25 x 24g capsules; Use 2 capsules to make 1ℓ broth
Components: (per liter) Peptone: 12g; Yeast Extract: 24g; Potassium Phosphate, Monobasic: 2.2g; Potassium Phosphate, Dibasic: 9.4g.
Recommended storage: RT

Yeast Extract Molecular Genetics — Powder

packaging		Mfr. No
100 g	PolyBottle	**BP1422-100**
500 g	PolyBottle	**BP1422-500**
2 kg	PolyBottle	**BP1422-2**

CAS: 8013-01-2
EINECS: 232-387-9

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: Yeast Extract is the water-soluble portion of autolyzed yeast used in bacteriological culture media.
Recommended Storage: RT

Terrific Broth, Modified — Large Granules

packaging		Mfr. No
2 kg	Poly Pail	**BP9728-2**
500 g	Poly Bottle	**BP9728-500**

CAS: [Peptone: 91079-40-2; Yeast Extract: 8013-01-2; Potassium Phosphate, Monobasic: 7778-77-0; Potassium Phosphate, Dibasic: 7758-11-4]

Color (APHA)	Beige to yellow
E.coli test	To pass test
particle size	1 to 2 mm

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures.
Components: (per liter) Peptone: 12g; Yeast Extract: 24g; Potassium Phosphate, Monobasic: 2.2g; Potassium Phosphate, Dibasic: 9.4g.
Recommended storage: RT

Yeast Extract — Large Granules

packaging		Mfr. No
2 kg	Poly Pail	**BP9727-2**
500 g	Poly Bottle	**BP9727-500**

CAS: 8013-01-2
EINECS: 232-387-9

Color (APHA)	Light beige to brown
Moisture	<=6%
particle size	1 to 2 mm
pH of a 2% solution	Inclusive between 5.5-7.5
Total nitrogen content	>=8%

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures; dust-free granules allow for easy weighing.
Description: Dried yeast autolysate with a high content of amino nitrogen and water soluble B complex vitamins
Recommended storage: RT

Tryptone — Large Granules

packaging		Mfr. No
2 kg	Poly Pail	**BP9726-2**
500 g	Poly Bottle	**BP9726-500**

CAS: 91079-40-2

Ash	<=15%
Color (APHA)	Light beige
Moisture	<=5%
particle size	1 to 2 mm
pH of a 2% solution	Inclusive between 6.5-7.5
Total nitrogen content	>=10%

Applications: Standard bacteriological media for the propagation and maintenance of E. coli strains in molecular biology procedures; dust-free granules allow for easy weighing.
Description: An enzymatic digest of casein, a milk protein; pH (at 25°C, 2% Solution): 6.5 to 7.3
Recommended storage: RT

YPD Broth Molecular Genetics — Powder

packaging		Mfr. No
100 g	PolyBottle	**BP2469-100**
500 g	PolyBottle	**BP2469-500**
2 kg	PolyBottle	**BP2469-2**
10 kg	PolyPail	**BP2469-10**

Growth promotion ability E. coli	Found
Growth promotion ability S. aureus	Found

Applications: YPD Broth is used for the maintenance and propagation of yeast.
Recommended Storage: RT

n-Butanol
Clear Colorless Liquid

packaging		Mfr. No
25 mℓ	AmberGlass	BP505-25
500 mℓ	AmberGlass,EcoSafPak*	BP505-500

$C_4H_{10}O$
CAS: 71-36-3
MW: 74.12
EINECS: 200-751-6
H226, H315, H302, H336,

H318, H335
P280, P305+P351+P338, P301+P312, P304+P340, P210, P303+P361+P353

Acidity	<=0.005%
Aldehyde (HCHO)	None
Assay	>=99.8%
Chloride (Cl)	None
Color (APHA)	<=5
iso-Butanol	<=0.1%
Water	<=0.1%

Applications: n-Butanol is used as an analytical reagent and solvent.
Recommended Storage: RT
UN 1120; DOT Class 3:Flammable Liquid
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

ACES
Fine White Crystals

packaging		Mfr. No
100 g	AmberGlass	BP303-100

$C_4H_{10}N_2O_4S$
CAS: 7365-82-4
MW: 182.19
EINECS: 230-908-4

Assay	>=96%
IR	Conforms to standard
PKa (at 25°C)	6.78 ±0.2

Applications: ACES biological buffer has a usable pH range of 6.1 to 7.5.
Recommended Storage: RT

Amido Black 10B

packaging		Mfr. No
10 g	AmberGlass	BP124-10

$C_{22}H_{14}N_6Na_2O_9S_2$
CAS: 1064-48-8
MW: 616.48
EINECS: 213-903-1

H335, H319, H315
P261, P302+P352, P280, P305+P351+P338

$E^{1\%}_{1cm}$	>=450ℓ g-1cm-1
Lambda Max.	618nm±2nm
Loss on Drying (at 105°C)	<=10%
Solubility	To pass test

Recommended storage: RT
C.I. 20470

Ammonium Bicarbonate
Fine, White Crystalline Powder

packaging		Mfr. No
500 g	PolyBottle	BP2413-500

CH_5NO_3
CAS: 1066-33-7
MW: 79.06
EINECS: 213-911-5

H302
P264, P270, P301+P312, P330

Assay (as NH_3)	21.30-21.73
Chloride (Cl)	<=5ppm
Heavy Metals (Pb)	<=5ppm
Iron	<=5ppm
Residue after ignition	<=0.005%
Sulfate (SO_4)	<=0.002%

Applications: Ammonium Bicarbonate is used for many biochemical applications.
Recommended Storage: RT

Ammonium Carbonate
Certified ACS

Lumps

packaging		Mfr. No
500 g	Amber Glass	BP2414-500

$CH_8N_2O_3$
CAS: 8000-73-5
MW: 96.09
Hartshorn salt

H302
P301+P312

Assay (as NH_3)	>=30%
Chloride (Cl)	<=5ppm
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.005%
Iron (Fe)	<=3 ppm
Non-volatile matter	<=0.005%
Sulfur compounds (as SO_4)	<=0.002%

Applications: Ammonium Carbonate is used in many biochemical procedures.
Description: This product is a mixture of Ammonium bicarbonate and Ammonium carbonate.
Recommended storage: RT

Ammonium Phosphate, Monobasic
White Crystalline Powder

packaging		Mfr. No
500 g	PolyBottle	BP2427-500

H_6NO_4P
CAS: 7722-76-1
MW: 115.03
EINECS: 231-764-5

Assay	>=98.0%
Calcium (Ca)	<=0.001%
Chloride (Cl)	<=5ppm
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.005%
Iron	<=0.001%
Magnesium (Mg)	<=0.0005%
Nitrate	<=0.001%
pH of 5% Solution (at 25°C)	3.8-4.4
Potassium	<=0.005%
Sodium	<=0.005%
Sulfate (SO_4)	<=0.01%

Applications: Ammonium Phosphate, Monobasic is used in several biochemical research applications.
Recommended Storage: RT

Ammonium Phosphate, Dibasic
Colorless Crystals

packaging		Mfr. No
500 g	PolyBottle	**BP361-500**

$H_9N_2O_4P$
CAS: 7783-28-0
MW: 132.06
H335, H315, H319

P261, P302+P352, P280, P305+P351+P338

Assay	98.0-101.0%
Calcium (Ca)	<=0.001%
Chloride (Cl)	<=5ppm
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.005%
Iron	<=0.001%
Magnesium (Mg)	<=0.0005%
Nitrate	<=0.003%
pH of 5% Solution (at 25°C)	7.7 to 8.1
Potassium	<=0.005%
Sodium	<=0.005%
Sulfate (SO_4)	<=0.01%

Applications: Ammonium Phosphate Dibasic is suitable for use in many biological applications.
Recommended Storage: RT

BES
White Crystalline Powder

packaging		Mfr. No
25 g	PolyBottle	**BP501-25**
100 g	PolyBottle	**BP501-100**
500 g	PolyBottle	**BP501-500**

$C_6H_{15}NO_5S$
CAS: 10191-18-1
MW: 213.25
EINECS: 233-465-5

H315, H319, H335
P261, P302+P352, P280, P305+P351+P338

Assay (as free acid)	>=99%
DNase	Not detected
Loss on Drying (at 105°C)	<=1%
PKa (at 25°C)	7.1 ±0.1
Protease	Not detected
RNase	Not detected

Applications: BES is a biological buffer with a usable pH range of 6.4 to 7.8.
Recommended Storage: RT

Bicine
White Powder

packaging		Mfr. No
100 g	PolyBottle	**BP2646-100**
250 g	PolyBottle	**BP2646-250**
1 kg	PolyBottle	**BP2646-1**

$C_6H_{13}NO_4$
CAS: 150-25-4
MW: 163.17

EINECS: 205-755-1

FTIR	Conforms to standard
OD260nm (10% aqueous solution)	<0.100
OD280nm (10% aqueous solution)	<0.100
pH of 1% Aqueous Solution	4.5-5.5

Applications: Bicine is one of the zwitterionic amino acids known as "Good" buffers. Used as a biological buffer and chelating agent.
Recommended Storage: RT

Bis-Tris
Fine White Crystals

packaging		Mfr. No
100 g	PolyBottle	**BP301-100**

$C_8H_{19}NO_5$
CAS: 6976-37-0
MW: 209.24
EINECS: 230-237-7
H290, H315, H319, H335

P234, P390, P261, P302+P352, P280, P305+P351+P338

Assay	>=99%
Melting Point	104°C ±2°C
PKa (at 25°C)	6.5 ±0.2

Applications: This biological buffer has a usable pH range of 5.8 to 7.2.
Recommended Storage: RT

CellPURE™ Bis-Tris Propane
Cell Culture-Tested
White crystalline powder

packaging		Mfr. No
100 g	Poly Bottle	**992H4**

$C_{11}H_{26}N_2O_6$
CAS: 64431-96-5
MW: 282.33

Absorbance 33% w/w at 290nM	<=0.05
Cell culture test	To pass test
DNase	Not detected
Endotoxin	<=1.0 EU/mg
Heavy metals (as Pb)	<=5 ppm
Infrared scan	Conforms to ref.
Purity (by titration)	>=99.0%
Nickase	Not detected
NMR	<=0.5%
Protease	Not detected
RNase	Not detected
Solubility	Clear and colorless
Standard plate count	<=100CFU/gm
Water (Karl Fischer)	<=0.2%

Applications: Cell cultivation, isolation of cells, enzyme assays, and other biochemical applications
Description: Cell culture tested; Analyzed for the absence of nucleases and proteases; Tested for endotoxin and bioburden levels; pKa values mostly independent of temperature and concentration; High water solubility; Minimal permeability to biological membranes; Manufactured under strict quality control guidelines to ensure performance and reliability.
Recommended storage: RT

JustPURE™ BIS-TRIS Propane
Cellular and Molecular Biology - White Powder

packaging		Mfr. No
25 g	Poly Bottle	**992FK**

$C_{11}H_{26}N_2O_6$
CAS: 64431-96-5
MW: 282.33

Aluminum (Al)	<=0.0005%
Ammonia	<=0.05%
Calcium (Ca)	<=0.0005%
Chloride	<=0.05%
Copper (Cu)	<=0.0005%
Iron (Fe)	<=0.0005%
Lead (Pb)	<=0.001%
Magnesium (Mg)	<=0.0005%
Purity (by titration)	>=99.0%
Optical Absorbance at 260nm	<=0.1
Optical Absorbance at 280nm	<=0.05
pH at 20°C	Inclusive between 10.0-12.0
Phosphorus	<=0.005%
Residue after ignition	<=0.1%
Sodium (Na)	<=0.005%
Solubility	Clear and colorless
Sulfate (SO_4)	<=0.005%

Applications: For high efficiency transfection of mammalian cells, gel electrophoresis of RNA, protein isolation applications, cell cultures and enzyme assays and bioanalytical methods, such as IEF, 2-D electrophoresis and SDS-PAGE.
Description: Ultra-pure zwitterionic buffers; Optimized for research in cellular and molecular biology; Minimal permeability to biological membranes; Low interference with biological reactions; pKa values mostly independent of temperature and concentration; High water solubility; Minimal absorption in spectral range 240 to 700nm.
Recommended storage: RT

Calcium Chloride Dihydrate
White Crystals to Powder

packaging		Mfr. No
100 g	PolyBottle	**BP510-100**
250 g	PolyBottle	**BP510-250**
500 g	PolyBottle	**BP510-500**

$CaCl_2.2H_2O$
CAS: 10035-04-8
MW: 147.02

H319
P280, P305+P351+P338

Assay	>=99-103.3%
DNase	Not detected
pH (5% solution in H_{20} at 25°C)	4.5-8.5
Protease	Not detected
RNase	Not detected

Applications: Calcium Chloride is suitable for use in the preparation of buffer solutions.
Recommended Storage: RT

Calcium Phosphate Dibasic Anhydrous
White Powder

packaging		Mfr. No
500 g	AmberGlass	**BP441-500**

$CaHO_4P$
CAS: 7757-93-9
MW: 136.06

Arsenic	<=8ppm
Assay (as Ca)	30.0-31.7%
Barium	To pass test
Chloride (Cl)	<=0.25%
Fluoride	<=0.005%
Heavy Metals (Pb)	<=0.003%
Loss on ignition	6.6-8.5%
Sulfate (SO_4)	<=0.5%

Applications: Calcium Phosphate can be used for column chromatography of proteins.
Recommended Storage: RT

CAPS
Fine White Crystals

packaging		Mfr. No
100 g	AmberGlass	**BP321-100**
500 g	AmberGlass	**BP321-500**

$C_9H_{19}NO_3S$
CAS: 1135-40-6
MW: 221.31
EINECS: 214-492-1
H335, H319, H315

P261, P301+P312, P302+P352, P280, P305+P351+P338

Assay	>=98%
IR	Conforms to standard
PKa (at 25°C)	10.4 ±0.2

Applications: This biological buffer has a usable pH range of 9.7 to 11.1.
Recommended Storage: RT

CHES
Fine White Crystals

packaging		Mfr. No
100 g	PolyBottle	**BP318-100**

$C_8H_{17}NO_3S$
CAS: 103-47-9
MW: 207.29
EINECS: 203-115-6

H335, H315, H319
P261, P302+P352, P280, P305+P351+P338

Assay	>=98%
DNase	Not detected
PKa (at 25°C)	9.3 ±0.2
RNase	Not detected

Applications: This biological buffer has a usable pH range of 8.6 to 10.0.
Recommended Storage: RT

Cytoscint* Scintillation Cocktail — Molecular Biology

packaging		Mfr. No
4 ℓ	AmberGlass,EcoSafPak*	BP458-4

3H Background	<=50cpm
3H Efficiency	>=50%
Aqueous PBS Buffer Capacity	>=4.5%
Distilled Water Capacity	>=8.5%
GC, IR, TLC	Conforms to standard
Specific Gravity	0.88 ±0.02

Applications: Universal LSC Cocktail.
Components: 65-95% Pseudocumene, 0-35% Ethoxylated Nonylphenol, <0.1% 2.5-Diphenyloxazole, <1% 1.4-bis[2-(2-methylphenyl)ethenyl]-benzene [95-63-6 (Pseudocumene)] ; [9016-45-9 (Ethoxylated Nonylphenol)] ; [92-71-7 (2.5-Diphenyloxazole)] ; [13280-61-0 (1.4-Bis[2-(2-methylphenyl)ethenyl] -benzene)]
UN 1993; DOT Class 3:Flammable Liquid
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Deoxycholic Acid Sodium Salt

packaging		Mfr. No
100 g	PolyBottle	BP349-100

$C_{24}H_{39}NaO_4$ EINECS: 206-132-7
CAS: 302-95-4
MW: 414.58

Arsenic	<=0.001%
Assay (dry basis)	>=99%
Lead	<=0.001%
Moisture	<=5%
Sodium Choleate	<=2%

Applications: This anionic detergent is useful for solubilizing and isolating membrane-bound proteins in an active state.
Recommended Storage: RT

Dimethyl Sulfoxide

packaging		Mfr. No
100 mℓ	AmberGlass	BP231-100
1 ℓ	AmberGlass,EcoSafPak*	BP231-1
4 ℓ	AmberGlass,EcoSafPak*	BP231-4

C_2H_6OS EINECS: 200-664-3
CAS: 67-68-5
MW: 78.13

A280nm	<=0.10
Assay	>=99.7%
Color (APHA)	<=10
Density (at 25°C)	1.095 ±0.005g/mℓ
Freezing Point	>=18.0°C
Residue after evaporation	<=0.001%
Water	<=0.2%

Applications: DMSO is a cryopreservation agent for cells, and may also be used in bacterial transformations.
Note: Sold for nonmedical use only. Not to be used or sold as a drug for humans or animals.
Recommended Storage: RT
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

Electrode Storage Solution

packaging		Mfr. No
1 ℓ	PolyBottle	BP2418-1

pH (at 25°C)	3.9 ±0.1
Potassium chloride	6.2 ±0.3g/ℓ
Residue after evaporation	1.65 ±0.08%

Applications: Electrode Storage Solution is a safe and convenient method to maintain sensitivity by removing buildup from electrodes.
For use in storage of pH electrodes.
Recommended Storage: RT

JustPURE™ EPPS — Cellular and Molecular Biology
White Powder

packaging		Mfr. No
100 g	Poly Bottle	BP2933-100

$C_9H_{20}N_2O_4S$ EINECS: 240-198-8
CAS: 16052-06-5
MW: 252.33

Ammonia	<=0.1%
Bromide	<=0.1%
Calcium (Ca)	<=0.002%
Copper (Cu)	<=0.0005%
Iron (Fe)	<=0.0005%
Lead (Pb)	<=0.001%
Magnesium (Mg)	<=0.0005%
Purity (by titration)	>=99.5%
Optical Absorbance at 260nm	<=0.1
Optical Absorbance at 280nm	<=0.1
pH at 20°C	Inclusive between 5.0-7.0
Phosphorus	<=0.005%
Residue after ignition	<=0.1%
Sodium (Na)	<=0.005%
Solubility	Clear and colorless

Applications: For high efficiency transfection of mammalian cells, gel electrophoresis of RNA, protein isolation applications, cell cultures and enzyme assays and bioanalytical methods, such as IEF, 2-D electrophoresis and SDS-PAGE.
Description: Ultra-pure zwitterionic buffers; Optimized for research in cellular and molecular biology; Minimal permeability to biological membranes; Low interference with biological reactions; pKa values mostly independent of temperature and concentration; High water solubility; Minimal absorption in spectral range 240 to 700nm.
Recommended storage: RT

Ethylenediamine Tetraacetate, DEPC-Treated Solution
0.5M, pH 8.0

packaging		Mfr. No
100 mℓ	PolyBottle	BP2483-100
500 mℓ	PolyBottle	BP2483-500
1 ℓ	PolyBottle	BP2483-1

CAS: 60-00-4
H319
P280, P305+P351+P338

Molarity	0.475-0.525M
pH	8.0 ± 0.1
Protease	Not detected
RNase	Not detected

Applications: EDTA, DEPC-Treated solution is ideal for RNA work.
[60-00-4 (Ethylenediamine Tetraacetic Acid, <14.0%)] ; [1310-73-2 (Sodium Hydroxide, <4.0%)] ; [1609-47-8 (Diethyl Pyrocarbonate, 1.0%)]
Recommended Storage: RT

Ethylenediamine Tetraacetic Acid
White Crystalline Powder

packaging		Mfr. No
500 g	AmberGlass	**BP118-500**

$C_{10}H_{16}N_2O_8$
CAS: 60-00-4
MW: 292.23
H319, H332

P264, P280,
P305+P351+P338, P337+P313

Assay	>=99.5%
Insoluble in Dilute NH_4OH	Clear and haze-free
Iron	<=0.005%
Magnesium (Mg)	<=0.0005%
Nitrilotriacetic Acid ($N(CH_2COOH)_3$)	<=0.1%
pH of 5% Solution (at 25°C)	2.5-3.5
Residue after ignition	<=0.2%

Recommended storage: RT

Ethylenediamine Tetraacetic Acid, Tetrasodium Salt Dihydrate
White Powder

packaging		Mfr. No
500 g	AmberGlass	**BP121-500**

$C_{10}H_{12}N_2Na_4O_8.2H_2O$
CAS: 10378-23-1
MW: 416.2
H302, H332, H318

P261, P280,
P301+P330+P331, P310,
P305+P351+P338

Assay	>=98.0%
Assay (dry basis)	>=99%
Insoluble matter	<=0.005%
Nitrilotriacetic Acid ($N(CH_2COOH)_3$)	<=0.2%
Nitrolotriacetic acid	<=0.2%
pH of 1% w/w Solution	10.7-11.7
pH of a 1% w/w solution	Inclusive between 10.7-11.7

Recommended storage: RT

Ethylenediamine Tetraacetic Acid, Dipotassium Salt Dihydrate
White Crystalline Powder

packaging		Mfr. No
500 g	AmberGlass	**BP119-500**

$C_{10}H_{14}K_2N_2O_8.2H_2O$
CAS: 25102-12-9
MW: 404.46
H335, H319, H315

P261, P302+P352, P280,
P305+P351+P338

Assay	>=99.0%
Chloride (Cl)	<=0.02%
Heavy Metals (Pb)	<=0.001%
Iron	<=0.001%
pH of 5% Solution (at 25°C)	4-5

Recommended storage: RT

Ficoll* 400 — Molecular Biology
White to Off-white Powder

packaging		Mfr. No
5 g	PolyBottle	**BP525-5**
10 g	PolyBottle	**BP525-10**
25 g	PolyBottle	**BP525-25**
100 g	PolyBottle	**BP525-100**
500 g	PolyBottle	**BP525-500**

CAS: 26873-85-8
MW: 400.000

Specific Rotation $\alpha\ ^{20}{}_D$ (c=4, H_2O)	52°±2°
DNase	Not detected
Protease	Not detected
RNase	Not detected

Applications: Ficoll 400 is used as a component of Denhardt's Reagent and in gel-loading buffers for DNA gels.
It is also used in forming density gradients to separate cells and subcellular components.
Recommended Storage: RT

Ethylenediamine Tetraacetic Acid, Disodium Salt Dihydrate
Crystalline Powder - Electrophoresis

packaging		Mfr. No
500 g	PolyBottle	**BP120-500**
1 kg	PolyBottle	**BP120-1**

$C_{10}H_{14}N_2Na_2O_8.2H_2O$
CAS: 6381-92-6
MW: 372.23

H332
P304+P312

Arsenic	<=2ppm
Assay	>=99%
Calcium (Ca)	<=20ppm
Electrophoresis	To pass test
Insoluble matter	<=0.005%
Iron	<=10ppm
Lead	<=5ppm
Mercury	<=2ppm
Nitrilotriacetic Acid ($N(CH_2COOH)_3$)	<=0.1%
pH of 5% Solution in Water (at 25°C)	4.0-6.0

Recommended storage: RT

Formamide Super Pure

packaging		Mfr. No
100 mℓ	AmberGlass	**BP228-100**

CH_3NO
CAS: 75-12-7
MW: 45.04
EINECS: 200-842-0

H360D
P201, P308+P313

Assay	>=99.5%
Conductivity	<=100µmhos/cm
Copper	<=0.0001%
Freezing Point	1.0°-3.0°C
Iron	<=0.0005%
Lead	<=0.0005%
Optical Absorbance at 280nm	<0.05
Zinc	<=0.0005%

H2NCH:O; CH3NO; F.W. 45.04
Vacuum distilled and packaged under Nitrogen.
Applications: Super Pure Formamide has been pretreated with a mixed-bed resin so that it is ready for use in nucleic acid hybridization and sequencing.
Recommended Storage: 4°C

Glycerol — Molecular Biology

packaging		Mfr. No
1 ℓ	PolyBottle,EcoSafPak*	**BP229-1**
4 ℓ	PolyBottle,EcoSafPak*	**BP229-4**

$C_3H_8O_3$ EINECS: 200-289-5
CAS: 56-81-5
MW: 92.09

Assay	>=99.5%
Calcium (Ca)	<=5ppm
Color (APHA)	<=10
Density (at 20°C)	1.260 ±0.005g/mℓ
DNase	Not detected
Heavy Metals (Pb)	<=5ppm
Iron	<=5ppm
Magnesium (Mg)	<=1ppm
Protease	Not detected
RNase	Not detected
Zinc	<=2ppm

Applications: Glycerol is used for low-temperature storage of enzymes and bacterial cultures, purification of proteins, and as a component in electrophoresis loading buffers.
Recommended Storage: RT
EcoSafPak* is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.

JustPURE™ Gly-Gly — Cellular and Molecular Biology
White Powder

packaging		Mfr. No
50 g	Poly Bottle	**992FL**

$C_4H_8N_2O_3$ EINECS: 209-127-8
CAS: 556-50-3 Diglycine, Glycyl-glycine
MW: 132.12

Ammonia	<=0.02%
Arsenic (As)	<=0.00001%
Bismuth (Bi)	<=0.0005%
Cadmium (Cd)	<=0.0005%
Calcium (Ca)	<=0.001%
Chloride	<=0.005%
Chromium (Cr)	<=0.0005%
Cobalt (Co)	<=0.0005%
Copper (Cu)	<=0.0005%
Iron (Fe)	<=0.0005%
Lead (Pb)	<=0.0005%
Lithium (Li)	<=0.0005%
Loss on Drying (at 110°C)	<=0.05
Magnesium (Mg)	<=0.0005%
Manganese (Mn)	<=0.0005%
Purity (by titration)	>=99.5%
Optical Absorbance at 260nm	<=0.075
Optical Absorbance at 280nm	<=0.072
pH at 20°C	Inclusive between 4.5-6.0
Sodium (Na)	<=0.005%
Solubility	Clear and colorless
Strontium (Sr)	<=0.0005%
Sulfate (SO_4)	<=0.005%

Applications: For high efficiency transfection of mammalian cells, gel electrophoresis of RNA, protein isolation applications, cell cultures and enzyme assays and bioanalytical methods, such as IEF, 2-D electrophoresis and SDS-PAGE.
Description: Ultra-pure zwitterionic buffers; Optimized for research in cellular and molecular biology; Minimal permeability to biological membranes; Low interference with biological reactions; pKa values mostly independent of temperature and concentration; High water solubility; Minimal absorption in spectral range 240 to 700nm.
Recommended storage: RT

HEPES Buffer — Molecular Biology
1M Solution, pH 7.3

packaging		Mfr. No
100 mℓ	PolyBottle	**BP299-100**
500 mℓ	PolyBottle	**BP299-500**
1 ℓ	PolyBottle	**BP299-1**

$C_8H_{18}N_2O_4S$ EINECS: 230-907-9
CAS: 7365-45-9
MW: 238.31

Absorbance of a 0.1M Solution at 260nm	<=0.008
Absorbance of a 0.1M Solution at 280nm	<=0.004
DNase	Not detected
Molarity	1.0±0.05
pH (at 37°C)	7.3±0.1
Protease	Not detected
RNase	Not detected

Applications: HEPES is commonly used as a buffering agent.
Recommended Storage: RT

HEPES Sodium Salt
White Powder

packaging		Mfr. No
500 g	PolyBottle	**BP410-500**
1 kg	PolyBottle	**BP410-1**
2.5 kg	PolyBottle	**BP410-212**

$C_8H_{17}N_2NaO_4S$ EINECS: 278-169-7
CAS: 75277-39-3
MW: 260.27

Absorbance of a 0.1M Solution in Water (1cm) at 260nm	<=0.04
Absorbance of a 0.1M Solution in Water (1cm) at 280nm	<=0.02
Assay (dry weight basis)	>=99%
Endotoxin Assay (LAL)	<=0.06 EU/mℓ
Heavy Metals (Pb)	<=0.001%
Loss on Drying (at 110°C)	<=3.0%
pH of 1% Solution (at 25°C)	10.2 ±0.8
PKa (at 25°C)	7.55 ±0.1
Solubility (0.1M in water)	Clear, complete & colorless

Applications: HEPES Sodium Salt is used as a buffer for in vitro cell culture.
Recommended Storage: RT

HEPES — Molecular Biology
Fine White Crystals

packaging		Mfr. No
100 g	PolyBottle	**BP310-100**
500 g	PolyBottle	**BP310-500**
1 kg	PolyBottle	**BP310-1**
5 kg	PolyPail	**BP310-5**

$C_8H_{18}N_2O_4S$ EINECS: 230-907-9
CAS: 7365-45-9
MW: 238.3

Absorbance of a 0.1M Solution at 280nm	<=0.01
Assay	>=99%
DNase	Not detected
PKa (at 25°C)	7.5±0.2
Protease	Not detected
RNase	Not detected
Solubility (1.196g/100mℓ H2O)	Clear and colorless
TLC	Single spot

Applications: HEPES is commonly used as a buffering agent.
Recommended Storage: RT

Hyamine Hydroxide*
Clear Solution

packaging		Mfr. No
500 mℓ	AmberGlass	BP2658-500

$C_{28}H_{45}NO_3$ EINECS: 247-537-9
CAS: 26248-39-5
MW: 443.66

Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.
UN 2924; DOT Class 3:Flammable Liquid

Hydrogen Peroxide
30% in Water

packaging		Mfr. No
500 g	PolyBottle	BP2633-500

H_2O_2 H318, H302
CAS: 7722-84-1 P280, P305+P351+P338,
MW: 34 P301+P312
EINECS: 231-765-0

Ammonium (NH_4)	<=5µg/g
Assay (as H_2O_2, %wt)	29.0-32.0%
Chloride (Cl)	<=3µg/g
Color (APHA)	<=10
Heavy Metals (Pb)	<=1µg/g
Iron	<=0.5µg/g
Nitrate	<=2µg/g
Phosphate (PO_4)	<=2µg/g
Residue after evaporation	<=0.002%
Sulfate (SO_4)	<=5µg/g
Titratable Acid	<=0.0006mEq/g

Applications: Hydrogen Peroxide is used as an antiseptic and for decomposition of inorganic and organic samples.
Recommended Storage: RT
UN 2014; DOT Class 5.1:Oxidizer

Imidazole
Molecular Biology

packaging		Mfr. No
50 g	olyBottle	BP305-50

$C_3H_4N_2$ P301+P330+P331, P280,
CAS: 288-32-4 P305+P351+P338, P310,
MW: 68.08 P281, P301+P312
H302, H314, H360D

Absorbance of a 0.1M Solution at 260nm	<=0.2
Assay	>=99%
DNase	Not detected
Melting Point	90°±2°C
PKa (at 25°C)	6.99±0.2
Protease	Not detected
RNase	Not detected

HNCH:CHN:CH; C3H4N2; F.W. 68.08
Applications: Imidazole is an excellent biological buffer with a usable pH range of 6.2 to 7.8.
Recommended Storage: RT
UN 3263; DOT Class 8:Corrosive

Isoamyl Alcohol

packaging		Mfr. No
500 mℓ	AmberGlass,EcoSafPak*	BP1150-500

$C_5H_{12}O$ H226, H335, H332, EUH066
CAS: 123-51-3 P261, P304+P340,
MW: 88.15 P210
EINECS: 204-633-5

Acidity (as Acetic Acid)	<=0.01%
Assay (GC)	>=99%
Carbonyl (as C=O)	<=0.1%
Color (APHA)	20
Peroxides	Not detected
Residue after evaporation	<=0.003%
Water	<=0.5%

EcoSafPak is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.*
Applications: A mixture of Chloroform and Isoamyl Alcohol (24:1 v/v) is used to remove proteins during nucleic acid extraction procedures. It may also be used to extract Ethidium Bromide from nucleic acids.
Recommended storage: RT

Magnesium Acetate Tetrahydrate

packaging		Mfr. No
500 g	AmberGlass	BP215-500

$C_4H_6O_4Mg.4H_2O$
CAS: 16674-78-5
MW: 214.46

Assay	>=99.0%
Calcium (Ca)	<=0.01%
Chloride (Cl)	<=0.001%
Heavy Metals (as Pb) (ACS method)	<=5ppm
Iron	<=5ppm
Nitrogen Compounds	<=0.001%
pH of 5% Solution (at 25°C)	6.5-8.5
Sulfate (SO_4)	<=0.005%
Water-insoluble Matter	<=0.005%

Applications: Magnesium Acetate is suitable for use in the preparation of buffer solutions and is required as a stabilizer for all stages of bacteriophage purification.
Recommended Storage: RT

Magnesium Chloride Hexahydrate

packaging		Mfr. No
500 g	PolyBottle	BP214-500

$Cl_2Mg.6H_2O$ H335, H319
CAS: 7791-18-6 P261, P280,
MW: 203.31 P305+P351+P338

Ammonium (NH_4)	<=0.002%
Assay	>=99.0%
Calcium (Ca)	<=0.01%
Iron	<=0.0005%
Lead	<=5ppm
Nitrate	<=0.001%
Phosphate (PO_4)	<=5ppm
Sulfate (SO_4)	<=0.002%
Water-insoluble Matter	<=0.005%

Applications: Magnesium Chloride is suitable for use in the preparation of buffer solutions.
Recommended Storage: RT

Magnesium Sulfate Heptahydrate

packaging		Mfr. No
1 kg	AmberGlass	**BP213-1**

$MgO_4S.7H_2O$
CAS: 10034-99-8
MW: 246.48

Ammonium (NH_4)	<=0.002%
Assay	98-102.0%
Calcium (Ca)	<=0.02%
Chloride (Cl)	<=5ppm
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.005%
Iron	<=5ppm
Manganese	<=5ppm
Nitrate	<=0.002%
pH of 0.5% solution (at 25°C)	5.0-8.2
Potassium	<=0.005%
Sodium	<=0.005%
Strontium	<=0.005%

Applications: Magnesium Sulfate is suitable for use in the preparation of buffer solutions.
Recommended Storage: RT

Manganese Chloride 1.0M Solution — Molecular Biology
Clear, Light-pink Solution

packaging		Mfr. No
10 mℓ	PolyTube	**BP541-1**
100 mℓ	PolyBottle	**BP541-100**

Cl_2 Mn
CAS: 7773-01-5
MW: 125.84

H302, H373
P260, P301+P312

Concentration	1.0M±0.01
DNase	Not detected
Heavy Metals (Pb)	<=5.0ppm
Protease	Not detected
RNase	Not detected

Applications: Manganese Chloride is used for dC and dG tailing of DNA.
0.2-micron filtered solution in 18-megohm water.
Recommended Storage: RT

JustPURE™ MES Hydrate — Cellular and Molecular Biology
White Powder

packaging		Mfr. No
250 g	Poly Bottle	**992F8**

$C_6H_{13}NO_4S.xH_2O$
CAS: 4432-31-9
MW: 195.23
EINECS: 224-632-3

H315, H319, H335
P280, P305+P351+P338, P261, P302+P352, P264, P271

Arsenic (As)	<=0.0001%
Bismuth (Bi)	<=0.0005%
Cadmium (Cd)	<=0.0005%
Calcium (Ca)	<=0.002%
Chloride	<=0.005%
Chromium (Cr)	<=0.0005%
Cobalt (Co)	<=0.0005%
Copper (Cu)	<=0.0005%
Iron (Fe)	<=0.0005%
Lead (Pb)	<=0.0005%
Lithium (Li)	<=0.0005%
Magnesium (Mg)	<=0.0005%
Purity (by titration)	>=99.5%
Optical Absorbance at 260nm	<=0.025
Optical Absorbance at 280nm	<=0.020
pH at 20°C	Inclusive between 2.5-4.0
Sodium (Na)	<=0.005%
Strontium (Sr)	<=0.005%

Applications: For high efficiency transfection of mammalian cells, gel electrophoresis of RNA, protein isolation applications, cell cultures and enzyme assays and bioanalytical methods, such as IEF, 2-D electrophoresis and SDS-PAGE.
Description: Ultra-pure zwitterionic buffers; Optimized for research in cellular and molecular biology; Minimal permeability to biological membranes; Low interference with biological reactions; pKa values mostly independent of temperature and concentration; High water solubility; Minimal absorption in spectral range 240 to 700nm.
Recommended storage: RT

Molecular Sieves, Grade 513
Type 4A; 4-8 Mesh

packaging		Mfr. No
500 g	PolyBottle	**BP2634-500**

CAS: 70955-01-0

Mesh Size	To pass test

Applications: Used for dehydration of gases.
Effective pore size:4Ã…
Base:Alumina-Silicate
Cation:Sodium [1344-28-1 (Aluminum Oxide)] ; [14808-60-7 (Quartz)]
Recommended Storage: RT

Molecular sieves, Grade 514 (Type 4A; 8-12 Mesh)
Type 4A; 8-12 Mesh

packaging		Mfr. No
500 g	PolyBottle	**5398H**

CAS: 70955-01-0

Mesh Size	To pass test

Applications: Used for dehydration of liquids.
Effective pore size:4Ã…
Base:Alumina-Silicate
Cation:Sodium [1344-28-1 (Aluminum Oxide)] ; [14808-60-7 (Quartz)]
Recommended Storage: RT

MOPS
Molecular Biology

Fine White Crystals

packaging		Mfr. No
100 g	PolyBottle	BP308-100
500 g	PolyBottle	BP308-500

$C_7H_{15}NO_4S$
CAS: 1132-61-2
MW: 209.26
EINECS: 214-478-5

H315, H335, H319
P261, P302+P352, P280, P305+P351+P338

Assay	>=97%
DNase	Not detected
PKa (at 25°C)	7.2±0.2
Protease	Not detected
RNase	Not detected

Applications: This biological buffer has a usable pH range of 6.5 to 7.9.
Recommended Storage: RT

CellPURE™ MOPS Sodium Salt
Cell Culture-Tested

White Crystalline powder

packaging		Mfr. No
25 g	Poly Bottle	992H6

$C_7H_{14}NNaO_4S$
CAS: 71119-22-7
MW: 231.25

Absorbance 33% w/w at 290nM	<=0.05
Cell culture test	To pass test
DNase	Not detected
Endotoxin	<=0.1 EU/mg
Heavy metals (as Pb)	<=5 ppm
Infrared scan	Conforms to ref.
Purity (by titration)	>=99.5%
Nickase	Not detected
Protease	Not detected
RNase	Not detected
Solubility	Clear and colorless
Standard plate count	<=100CFU/gm

Applications: Cell cultivation, isolation of cells, enzyme assays, and other biochemical applications
Description: Cell culture tested; Analyzed for the absence of nucleases and proteases; Tested for endotoxin and bioburden levels; pKa values mostly independent of temperature and concentration; High water solubility; Minimal permeability to biological membranes; Manufactured under strict quality control guidelines to ensure performance and reliability.
Recommended storage: RT

JustPURE™ MOPS Sodium Salt
Cellular and Molecular Biology

White Powder

packaging		Mfr. No
100 g	Poly Bottle	992FE

$C_7H_{14}NNaO_4S$
CAS: 71119-22-7
MW: 231.25

Ammonia	<=0.05%
Calcium (Ca)	<=0.001%
Chloride	<=0.05%
Copper (Cu)	<=0.0005%
Iron (Fe)	<=0.0005%
Lead (Pb)	<=0.001%
Magnesium (Mg)	<=0.0005%
Purity (by titration)	>=99.5%
Optical Absorbance at 260nm	<=0.1
Optical Absorbance at 280nm	<=0.1
pH at 20°C	Inclusive between 10.0-12.0
Phosphorus	<=0.005%
Solubility	Clear and colorless
Sulfate (SO_4)	<=0.05%
Water (Karl Fischer)	<=5%

Applications: For high efficiency transfection of mammalian cells, gel electrophoresis of RNA, protein isolation applications, cell cultures and enzyme assays and bioanalytical methods, such as IEF, 2-D electrophoresis and SDS-PAGE.
Description: Ultra-pure zwitterionic buffers; Optimized for research in cellular and molecular biology; Minimal permeability to biological membranes; Low interference with biological reactions; pKa values mostly independent of temperature and concentration; High water solubility; Minimal absorption in spectral range 240 to 700nm.
Recommended storage: RT

Heptane Sequencing

Peroxide-free

packaging		Mfr. No
500 mℓ	AmberGlass,EcoSafPak*	BP1115-500

C_7H_{16}
CAS: 142-82-5
MW: 100.2
EINECS: 205-563-8
H225, H315, H336, H304,

H400, H410
P261, P301+P310, P331, P273, P302+P352, P210

Aldehyde (HCHO)	Not detected
Assay	99.0%
Color (APHA)	<=10
Fluorescence Background (as Quinine Sulfate)	To pass test
Optical Absorbance at 200nm	<=0.75
Optical Absorbance at 215nm	<=0.20
Optical Absorbance at 254nm	<=0.014
Peroxides	Not detected
Refractive Index (at 25°C)	1.3845-1.3865
Residue after evaporation	<=5ppm
Water	<=0.02%

EcoSafPak is an environmentally friendly packaging system made of 100% recyclable material by an SFI certified supplier.*
Applications: Solvent for other organics and is used as a carrier in chromatography.
Recommended storage: RT

n-Octyl-β-D-Glucopyranoside
White Crystalline Powder

packaging		Mfr. No
500 mg	PolyMicroTube	**BP585-500**
1 g	PolyMicroTube	**BP585-1**
5 g	AmberPolyBottle	**BP585-5**
25 g	AmberPolyBottle	**BP585-25**

$C_{14}H_{28}O_6$ EINECS: 249-887-8
CAS: 29836-26-8
MW: 292.36

Assay (GC) ..... >=98.0%
Specific Rotation α $^{20}_{D}$ (c=1, anhydrous MeOH) ..... -32.0° to -28.0°

Applications: n-Octyl-β-D-Glucopyranoside is a highly purified, nonionic detergent.
Recommended Storage: -20°C
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Phosphate Buffered Saline Tablets

packaging	Mfr. No
100 tablets g Poly Bottle	**992E0**

CAS: [Sodium chloride: 7647-14-5; Sodium phosphate dibasic: 7558-79-4; Dihydrogen potassium phosphate: 7778-77-0; Potassium chloride: 7447-40-7]

Form ..... Round tablet
pH at 25°C ..... Inclusive between 7.2-7.6
Total weight ..... Inclusive between 1814-2005mg/tab

Applications: Specifically developed for use in immunoassay procedures. The need to weigh and mix individual components is eliminated.
Description: One tablet dissolved in 200mℓ water yields 0.01M phosphate buffer, 0.0027M KCl, and 0.137M NaCl, pH 7.4 at 25°C
Recommended storage: RT

Phosphate Buffered Saline with Tween 20* White Powder

packaging		Mfr. No
10PK	Foil Pouches	**992FY**

CAS: [Sodium chloride: 7647-14-5; Sodium phosphate dibasic: 7558-79-4; Tween 20: 9005-64-5; Di-hydrogen potassium phosphate: 7778-77-0; Potassium chloride: 7447-40-7]
PBST

pH at 25°C ..... Inclusive between 7.2-7.6
Total weight ..... Inclusive between 9.55-10.55grams

Applications: Used as a wash buffer and diluent for ELISA and Western blot.
Description: Dissolve the pre-weighed contents of one pouch in 1ℓ of water. Formulation per liter: 0.01M phosphate buffered saline, 0.138 M NaCl, 0.0027 M KCl, and 0.05% Tween 20, pH 7.4 at 25°C
Recommended storage: RT

Phosphate Buffered 10X Powder Concentrate
White Granular Powder

packaging	Mfr. No
2 blocks FoilPack	**BP665-1**

Chloride Concentration of a 1X Solution ..... 0.140±0.004 moles/ℓ
Conductivity of a 1X Solution ..... 14.000 to 17.800μmhos/cm
DNase ..... Not detected
pH of 10X solution (at 25°C) 6.7-6.9
pH of 1X solution (at 25°C) 7.3-7.5
Protease ..... Not detected
RNase ..... Not detected
Solubility (1% in water) ..... To pass test

Applications: This product provides a convenient way to make a 10X concentrated solution of standard Phosphate Buffer; each pack contains 98.8g for reconstitution in 1ℓ of water.
Components: Sodium Chloride (81%), Sodium Phosphate Dibasic (14%), Potassium Phosphate Monobasic (3.0%), and Potassium Chloride (2%). [7647-14-5 (Sodium Chloride)] ; [7558-79-4 (Sodium Phosphate Dibasic)] ; [7778-77-0 (Potassium Phosphate Monobasic)] ; [7447-40-7 (Potassium Chloride)]
Recommended Storage: RT

Phosphate Buffered 1X Powder Concentrate
White Granular Powder

packaging		Mfr. No
98.9 g	PolyBottle	**BP661-10**
492 g	PolyBottle	**BP661-50**

Chloride Concentration of a 1X Solution ..... 0.140±0.004 moles/ℓ
Conductivity of a 1X Solution 14.000-17.800μmhos
DNase ..... Not detected
pH of 1X solution (at 25°C) 7.3-7.5
Protease ..... Not detected
RNase ..... Not detected
Solubility (1% in water) ..... To pass test

Applications: This product provides a convenient way to make large volumes of standard 1X Phosphate Buffer; each bottle contains 98.9g or 492g for reconstitution in 10ℓ or 50ℓ of water, respectively.
Components: Sodium Chloride (81%), Sodium Phosphate Dibasic (14%), Potassium Phosphate Monobasic (3.0%), and Potassium Chloride (2%). [7647-14-5 (Sodium Chloride)] ; [7558-79-4 (Sodium Phosphate Dibasic)] ; [7778-77-0 (Potassium Phosphate Monobasic)] ; [7447-40-7 (Potassium Chloride)]
Recommended Storage: RT

CellPURE™ Phosphate Buffered Saline Cell Culture-Tested

10X Solution

packaging		Mfr. No
4 ℓ	PolyPac*	992H1

CAS: [Water: 7732-18-5; Sodium chloride: 7647-14-5; Sodium phosphate dibasic: 7558-79-4; Dihydrogen potassium phosphate: 7778-77-0; Potassium chloride: 7447-40-7]
PBS

Bioburden	<=16.0 CFU/mℓ
Cell culture salt test	To pass test
DNase	Not detected
Endotoxin	<=1.0 EU/mℓ
Heavy metals (as Pb)	<=5 ppm
Nickase	Not detected
pH at 25°C of a 1:10 dilution	Inclusive between 7.2-7.6
Protease	Not detected
RNase	Not detected

Applications: CellPURE Phosphate Buffered Saline provides an optimal formulation for cell biology experiments in which the osmolarity of cells must be maintained. PBS can also be used in biochemistry studies for maintaining proteins in a certain pH range. Nuclease- and protease-free.
Description: When diluted to a 1X concentration using water, this product yields 0.01M phosphate buffer and 0.154M NaCl, pH 7.4 at 25°C.
Recommended storage: RT

Periodic Acid

White to Pale-yellow Crystals or White Powder

packaging		Mfr. No
25 g	PolyBottle	BP581-25
100 g	PolyBottle	BP581-100

H_5IO_6
CAS: 10450-60-9
MW: 227.94
EINECS: 233-937-0

H272, H314
P301+P330+P331, P280, P305+P351+P338, P310, P210

Assay	>=99%
Heavy Metals (Pb)	<=0.005%
Insoluble matter	<=0.1%
Iron	<=0.003%
Other Halogens (as Cl)	<=0.05%
Residue after ignition	<=0.05%
Sulfate (SO_4)	<=0.05%

Applications: Periodic Acid is used to decompose organic compounds.
Recommended Storage: RT
UN 3085; DOT Class 5.1:Oxidizer

Phenol

Crystallized

packaging		Mfr. No
100 g	AmberGlass/PoisonPack	BP226-100
500 g	AmberGlass/PoisonPack	BP226-500

C_6H_6O
CAS: 108-95-2
MW: 94.11
EINECS: 203-632-7
H311, H331, H341, H314, H373, H301

P280, P302+P350, P301+P330+P331, P305+P351+P338, P304+P340, P301+P310, P260

Assay	>=99.0%
Heavy Metals (Pb)	<=0.01%
Melting Point	40°-41°C
Saturation of Phenol with Tris	To pass test
Water	<=0.5%

Applications: Phenol is used in nucleic acid purification procedures.
Recommended Storage: 4°C
UN 1671; DOT Class 6.1:Poison

PIPES, Sesquisodium Salt

Molecular Biology

Fine White Crystals

packaging		Mfr. No
100 g	PolyBottle	BP304-100
500 g	PolyBottle	BP304-500

$C_{16}H_{33}N_4Na_3O_{12}S_4$
CAS: 100037-69-2
MW: 335.34

Assay	>=95%
DNase	Not detected
PKa (at 25°C)	6.76 ±0.2
RNase	Not detected

Applications: This biological buffer has a usable pH range of 6.1 to 7.5.
Recommended Storage: RT
Not on TSCA inventory: for R and D use only; not for manufacturing or commercial purposes.

Potassium Phosphate Dibasic

Fine White Crystalline Powder

packaging		Mfr. No
500 g	PolyBottle	BP363-500
1 kg	PolyBottle	BP363-1

HK_2O_4P
CAS: 7758-11-4
MW: 174.18

Assay	>=98.0% Minimum
Chloride (Cl)	<=0.003%
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.010%
Iron	<=0.001%
Loss on Drying (at 105°C)	<=1.0%
Nitrogen Compounds (as N)	<=0.001%
pH of 5% Solution (at 25°C)	8.5-9.6
Sodium	<=0.05%
Sulfate (SO_4)	<=0.005%

Applications: This potassium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT

Potassium Phosphate Monobasic
White Crystals

packaging		Mfr. No
500 g	AmberGlass	**BP362-500**
1 kg	AmberGlass	**BP362-1**

H_2KO_4P
CAS: 7778-77-0
MW: 136.09

Assay	>=99.0%
Chloride (Cl)	<=0.001%
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.01%
Iron	<=0.002%
Loss on Drying (at 105°C)	<=0.20%
pH of 5% Solution (at 25°C)	4.1-4.5
Sodium	<=0.005%
Sulfate (SO_4)	<=0.003%

Applications: This potassium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT

Sodium Carbonate
White Crystalline Powder

packaging		Mfr. No
1 kg	PolyBottle	**BP357-1**

CNa_2O_3
CAS: 497-19-8
MW: 105.99
EINECS: 207-838-8

H319
P280, P305+P351+P338

Assay	>=99.5%
Calcium (Ca)	<=0.03%
Chloride (Cl)	<=0.001%
Heavy Metals (Pb)	0.0005%
Insoluble matter	<=0.01%
Iron	0.0005%
Loss on Heating (at 285°C)	<=1.0%
Magnesium (Mg)	<=0.005%
Phosphate (PO_4)	<=0.001%
Potassium	0.005%
Silica	<=0.005%
Sulfur Compounds (as SO_4)	<=0.003%

Applications: This sodium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT

Sodium Azide
White Granular Powder

packaging		Mfr. No
500 g	AmberGlass/PoisonPack	**BP922I-500**

N_3Na
CAS: 26628-22-8
MW: 65.01
EINECS: 247-852-1

H300, H410, EUH032
P301+P310, P280,
P302+P350, P273

Assay	>=99%

Applications: Sodium Azide is used as a preservative in biological solutions.
Recommended Storage: RT
UN 1687; DOT Class 6.1:Poison

Sodium Chloride

packaging		Mfr. No
1 kg	PolyBottle	**BP358-1**
2.5 kg	PolyBottle	**BP358-212**
10 kg	PolyPail	**BP358-10**

ClNa
CAS: 7647-14-5
MW: 58.44

EINECS: 231-598-3

Calcium (Ca)	<=0.005%
Heavy Metals (Pb)	0.0005%
Iodide	<=0.002%
Iron	<=0.0002%
Magnesium (Mg)	<=0.005%
Phosphate (PO_4)	0.0005%
Sulfate (SO_4)	<=0.004%

Applications: Sodium Chloride is a main component of many electrophoresis and molecular biology buffers and media.
Recommended Storage: RT

Sodium Bicarbonate
Fine White Powder

packaging		Mfr. No
500 g	PolyBottle	**BP328-500**
1 kg	PolyBottle	**BP328-1**

$CHNaO_3$
CAS: 144-55-8
MW: 84.01

EINECS: 205-633-8

Ammonium (NH_4)	<=5ppm
Assay	99.7-100.3%
Calcium (Ca)	<=0.02%
Chloride (Cl)	<=0.003%
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.015%
Iron	<=0.001%
Magnesium (Mg)	<=0.005%
Phosphate (PO_4)	<=0.001%
Potassium	<=0.005%
Sulfur compounds (as SO_4)	<=0.003%

Applications: This sodium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT

Sodium Citrate Dihydrate
Small, Colorless Granules

packaging		Mfr. No
500 g	PolyBottle	**BP327-500**
1 kg	PolyBottle	**BP327-1**

$C_6H_5Na_3O_7.2H_2O$
CAS: 6132-04-3
MW: 294.09

Ammonia	<=0.003%
Assay	99.0-101.0%
Calcium (Ca)	<=0.005%
Chloride (Cl)	<=0.003%
Free Acid (as Citric Acid)	<=0.15%
Free Alkali	None
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.005%
Iron	<=0.001%
pH of 5% Solution (at 25°C)	7.0-9.0
Sulfate (SO_4)	<=0.005%

Applications: Sodium Citrate is used primarily in the preparation of SSC buffer used in Southern transfers.
Recommended Storage: RT

Sodium Hydroxide
White Pellets

packaging		Mfr. No
500 g	PolyBottle	**BP359-500**
2.5 kg	PolyBottle	**BP359-212**

HNaO
CAS: 1310-73-2
MW: 40
EINECS: 215-185-5

H314
P280, P301+P330+P331,
P305+P351+P338, P302+P352

Assay	>=97%
Calcium (Ca)	<=0.005%
Chloride (Cl)	<=0.005%
Copper	0.001%
Heavy Metals (as Ag)	0.002%
Iron	<=0.001%
Magnesium (Mg)	0.002%
Mercury	<=0.1ppm
Nickel	<=0.001%
Nitrogen Compounds (as N)	<=0.001%
Phosphate (PO_4)	0.001%
Potassium	<=0.02%
Sodium carbonate	<=1.0%
Sulfate (SO_4)	<=0.003%

Applications: Sodium Hydroxide is used to adjust the pH of buffers for molecular biology and cell culture applications.
Recommended Storage: RT
UN 1823; DOT Class 8:Corrosive

Sodium Iodide
White Crystals

Molecular Biology

packaging		Mfr. No
100 g	AmberGlass	**BP323-100**

INa
CAS: 7681-82-5
MW: 149.89

EINECS: 231-679-3

Assay	>=99%
Chloride and Bromide (as Cl)	<=0.01%
Copper	<=3ppm
DNase	Not detected
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.005%
Iodate	<=0.003%
Iron	<=3ppm
Phosphate (PO_4)	<=0.001%
RNase	Not detected
Sulfate (SO_4)	<=0.005%

Applications: This sodium salt is used in buffers for molecular biology and cell culture applications.
Recommended Storage: RT

Sodium Nitrate
Colorless Crystals

packaging		Mfr. No
500 g	PolyBottle	**BP360-500**

$NNaO_3$
CAS: 7631-99-4
MW: 84.99
EINECS: 231-554-3
H272, H315, H335, H302, H319

P261, P301+P312,
P302+P352, P280,
P305+P351+P338, P210

Assay	>=99%
Calcium (Ca)	<=0.005%
Chloride (Cl)	<=0.001%
Heavy Metals (Pb)	<=5ppm
Insoluble matter	<=0.005%
Iodate	<=5ppm
Iron	<=3ppm
Magnesium (Mg)	<=0.002%
Nitrite	<=0.001%
pH of 5% Solution (at 25°C)	5.5-8.3
Phosphate (PO_4)	5ppm
Sulfate (SO_4)	<=0.003%

Applications: This sodium salt is used in buffers for molecular biology and cell culture applications.
UN 1498; DOT Class 5.1:Oxidizer

Sodium Phosphate Dibasic Anhydrous
White Granules or Powder

packaging		Mfr. No
500 g	PolyBottle	**BP332-500**
1 kg	PolyBottle	**BP332-1**

HNa_2O_4P
CAS: 7558-79-4
MW: 141.96

EINECS: 231-448-7

Assay	>=99.0%
Chloride (Cl)	<=0.002%
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.010%
Iron	<=0.001%
Loss on Drying (at 105°C)	<=0.20%
pH of 5% Solution (at 25°C)	8.7-9.3
Sulfate (SO_4)	<=0.005%

Applications: This buffer component is commonly used in tissue culture and molecular biology applications.
Recommended Storage: RT

Sodium Phosphate Dibasic Heptahydrate
Colorless-to-white Crystals

packaging		Mfr. No
500 g	AmberGlass	**BP331-500**
1 kg	AmberGlass	**BP331-1**

$HNa_2O_4P.7H_2O$
CAS: 7782-85-6
MW: 268.07

Assay	98.0-102.0%
Chloride (Cl)	<=0.001%
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.005%
Iron	<=0.001%
pH of 5% Solution (at 25°C)	8.7-9.3
Sulfate (SO_4)	<=0.005%

Applications: This buffer component is commonly used in tissue culture and molecular biology applications.
Recommended Storage: RT

Sodium Phosphate Monobasic Anhydrous
Colorless-to-white Crystals

packaging		Mfr. No
500 g	AmberGlass	**BP329-500**
1 kg	AmberGlass	**BP329-1**

H_2NaPO_4 EINECS: 231-449-2
CAS: 7558-80-7
MW: 119.98

Assay	>=99%
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.03%
Moisture	0.5%
pH of 1M Solution (at 25°C)	4.0-6.0

Applications: Sodium Phosphate is commonly used in tissue culture and molecular biology applications.
Recommended Storage: RT

Sodium Phosphate Monobasic Monohydrate
Colorless-to-white Crystals

packaging		Mfr. No
500 g	AmberGlass	**BP330-500**
1 kg	AmberGlass	**BP330-1**

$H_2NaO_4P.H_2O$
CAS: 10049-21-5
MW: 137.99

Assay	98.0-102.0%
Calcium (Ca)	<=0.005%
Chloride (Cl)	<=5ppm
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.01%
Iron	<=0.001%
pH of 5% Solution (at 25°C)	4.1-4.5
Potassium	0.01%
Sulfate (SO_4)	<=0.003%

Applications: Sodium Phosphate is commonly used in tissue culture and molecular biology applications.
Recommended Storage: RT

Sodium Tetraborate Decahydrate
White Crystals

Molecular Biology

packaging		Mfr. No
500 g	AmberGlass	**BP175-500**

$B_4Na_2O_7.10H_2O$ H360FD
CAS: 1303-96-4 P201, P308+P313
MW: 381.36

Assay	99.5-105.0%
Calcium (Ca)	<=0.005%
Chloride (Cl)	<=0.001%
DNase	Not detected
Heavy Metals (Pb)	<=0.001%
Insoluble matter	<=0.005%
Iron	<=5ppm
pH of 0.01M Solution (at 25°C)	9.15-9.20
Phosphate (PO_4)	<=0.001%
RNase	Not detected
Sulfate (SO_4)	<=0.005%

Applications: Sodium Borate can be used in the preparation of TBE electrophoresis buffer.
Recommended Storage: RT

STET Buffer, 1X Solution
pH 8.0

packaging		Mfr. No
100 mℓ	PolyBottle	**BP2480-100**
1 ℓ	PolyBottle	**BP2480-1**

DNase	Not detected
pH (at 25°C)	7.9-8.1
Protease	Not detected
RNase	Not detected

Applications: STET buffer is used in biomolecular procedures.
Saline/Tris/EDTA/Triton* X-100 Solution 1X solution contains 10mM Tris-HCl, 1mM EDTA, 100mM NaCl, and 5% Triton* X-100 (v/v).
Autoclaved.
[77-86-1 (Tris Base)] ; [60-00-4 (EDTA)] ; [7647-01-0 (HCl)] ; [7647-14-5 (NaCl)] ; [9002-93-1 (Triton* X-100)]
Recommended Storage: RT
Filtered through a 5-micron filter.

Sudan Black

packaging		Mfr. No
10 g	AmberGlass	**BP109-10**

$C_{29}H_{24}N_6$ EINECS: 224-087-1
CAS: 4197-25-5
MW: 456.54

$E^{1\%}_{1cm}$	>=600ℓ g-1cm-1
Lambda Max. in Acetone	600nm ±2nm
Loss on Drying (at 105°C)	<=5%
Solubility	To pass test

Applications: Used to stain chromosomes and lipoproteins, as well as fat in bacteria.
Recommended storage: RT
C.I. 26150

TAPS (Free Acid)
White Powder

packaging		Mfr. No
25 g	PolyBottle	**BP551-25**
100 g	PolyBottle	**BP551-100**
500 g	PolyBottle	**BP551-500**

$C_7H_{17}NO_6S$ EINECS: 249-954-1
CAS: 29915-38-6
MW: 243.27

Assay (purity	>=99%
DNase	Not detected
Heavy Metals (Pb)	<=5ppm
Moisture	1%
Protease	Not detected
RNase	Not detected

Applications: This biological buffer has a usable pH range of 7.7 to 9.1.
Recommended Storage: RT

TES
White Crystals

packaging		Mfr. No
100 g	AmberGlass	**BP309-100**

$C_6H_{15}NO_6S$
CAS: 7365-44-8
MW: 229.25
EINECS: 230-906-3

H335, H315, H319
P261, P302+P352, P280, P305+P351+P338

Assay	>=98%
Melting Point	219° ±5°C
PKa (at 25°C)	7.4±0.2

Applications: This biological buffer has a usable pH range of 6.8 to 8.2.
Recommended Storage: RT

Trichloroacetic Acid
Flakes or Crystals

packaging		Mfr. No
250 g	AmberGlass	**BP555-250**
500 g	AmberGlass	**BP555-500**
1 kg	PolyBottle	**BP555-1**

$C_2HCl_3O_2$
CAS: 76-03-9
MW: 163.39
EINECS: 200-927-2
H314, H335, H410

P301+P330+P331, P280, P305+P351+P338, P310, P261, P273

Assay	>=99.0%
Chloride (Cl)	<=0.002%
Heavy Metals (Pb)	<=0.002%
Iron	<=0.001%
Nitrate	<=0.002%
Phosphate (PO_4)	<=5ppm
Residue after ignition	0.03%
Substances Darkened by Sulfuric Acid	To pass test
Sulfate (SO_4)	<=0.02%

Applications: TCA is used to precipitate proteins and nucleic acids from solution.
Recommended Storage: RT
UN 1839; DOT Class 8:Corrosive

Tricine
White Crystals

packaging		Mfr. No
100 g	PolyBottle	**BP315-100**

$C_6H_{13}NO_5$
CAS: 5704-04-1
MW: 179.17
EINECS: 227-193-6

H315, H319, H335
P261, P302+P352, P280, P305+P351+P338

Assa	98%
Assay	>=98%
Melting Point	184°±2 °C
PKa (at 25°C)	8.10±0.2

Applications: This biological buffer has a usable pH range of 7.4 to 8.8.
Recommended Storage: RT

Tris Base
White Crystals or Crystalline Powder

packaging		Mfr. No
1 kg	PolyBottle	**BP154-1**

$C_4H_{11}NO_3$
CAS: 77-86-1
MW: 121.14
EINECS: 201-064-4

H335, H315, H319
P280, P305+P351+P338, P261, P302+P352

Absorbance of a 2M Solution at 280nm	<=0.05
Arsenic.	<=5ppm
Assay (corrected for H2O)	>=99.9%
Copper	<=1ppm
DNase	Not detected
Electrophoresis	To pass test
Iron	<=2ppm
Lead	<=1ppm
Magnesium (Mg)	<=10ppm
pH of 0.05M Solution (at 25°C)	10.3-10.5
Protease	Not detected
RNase	Not detected
Water	<=0.5%

Applications: This ultrapure, triple-crystallized buffer component is alcohol-free, so it is compatible with sensitive molecular biology, tissue culture, and electrophoresis methods.
Recommended Storage: RT

Tris Base — Molecular Biology
White Crystals or Crystalline Powder

packaging		Mfr. No
500 g	PolyBottle	**BP152-500**
1 kg	PolyBottle	**BP152-1**
5 kg	PolyPail	**BP152-5**
10 kg	PolyPail	**BP152-10**
25 kg	FiberDrum	**BP152-25**

$C_4H_{11}NO_3$
CAS: 77-86-1
MW: 121.14
EINECS: 201-064-4

H335, H315, H319
P280, P305+P351+P338, P261, P302+P352

Absorbance of a 1M Solution at 280nm	<=0.05
Arsenic	<=5ppm
Assay (corrected for H2O)	99.8%
Copper	<=1ppm
DNase	Not detected
Electrophoresis	To pass test
Iron	<=2ppm
Lead	1ppm
Magnesium (Mg)	<=10ppm
pH of 0.05M Solution (at 25°C)	10.3-10.5
Protease	Not detected
RNase	Not detected
Water	<=2%

Applications: Tris Base is a buffer component in molecular biology, tissue culture, and electrophoresis procedures.
Recommended Storage: RT

Tris Buffered Saline
10X Solution
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP2471-100**
500 mℓ	PolyBottle	**BP2471-500**
1 ℓ	PolyBottle	**BP2471-1**

H315, H319
P305+P351+P338, P280, P264,
P302+P352

DNase	Not detected
pH (1X solution) (at 25°C)	7.3-7.5
Protease	Not detected
RNase	Not detected

Applications: Tris Buffered Saline (TBS) is used in biochemical and molecular biology applications.
Filtered and autoclaved.
Components: 10X solution contains 1.37M Sodium Chloride, 0.027M Potassium Chloride, and 0.25M Tris/Tris-HCl.
pH:pH 7.4 [77-86-1 (Tris)] ; [1185-53-1 (Tris Hydrochloride)] ; [7447-40-7 (Potassium Chloride)] ; [7647-14-5 (Sodium Chloride)]
Recommended Storage: RT

Tris Buffered Saline
1X Solution, pH 7.4
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP2472-100**
1 ℓ	PolyBottle	**BP2472-1**

H315, H319
P305+P351+P338, P280, P264,
P302+P352

DNase	Not detected
pH (at 25°C)	7.3-7.5
Protease	Not detected
RNase	Not detected

Applications: Tris Buffered Saline (TBS) is used in biochemical and molecular biology applications.
1X solution contains 0.137M Sodium Chloride, 0.0027M Potassium Chloride and 0.025M Tris/Tris-HCl.
Filtered and autoclaved.
[77-86-1 (Tris)] ; [1185-53-1 (Tris Hydrochloride)] ; [7447-40-7 (Potassium Chloride)] ; [7647-14-5 (Sodium Chloride)]
Recommended Storage: RT

Tris Hydrochloride
Small White Flakes
Molecular Biology

packaging		Mfr. No
500 g	PolyBottle	**BP153-500**
1 kg	PolyBottle	**BP153-1**

$C_4H_{11}NO_3.HCl$
CAS: 1185-53-1
MW: 157.6
EINECS: 214-684-5

H335, H319, H315
P261, P302+P352, P280,
P305+P351+P338

Absorbance of a 1M Solution at 280nm	<=0.05
Arsenic	<=10ppm
Assay	>=99%
Barium	<=1ppm
Calcium (Ca)	<=10ppm
Copper	<=1ppm
DNase	Not detected
Electrophoresis	To pass test
Iron	<=2ppm
Lead	<=5ppm
Magnesium (Mg)	10ppm
Manganese	<=1ppm
Melting Point	52°±2°C
Protease	Not detected
RNase	Not detected

Applications: Tris Hydrochloride is a buffering medium for electrophoresis, molecular biology, and cell culture applications. It may be combined with Tris Base to simplify Tris buffer preparation.
Recommended Storage: RT

Tris-EDTA (TE), 10X Solution
pH 7.4
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP2477-100**
500 mℓ	PolyBottle	**BP2477-500**
1 ℓ	PolyBottle	**BP2477-1**

CAS: 38641-82-6

DNase	Not detected
pH (1X solution) (at 25°C)	7.3-7.5
Protease	Not detected
RNase	Not detected

Applications: Tris-EDTA (TE) is used for suspending nucleic acid samples.
10X solution contains 100mM Tris and 10mM EDTA.
[60-00-4 (EDTA)] ; [77-86-1 (Tris)]
Recommended Storage: RT
Filtered through a 5-micron filter and autoclaved.

Tris-EDTA (TE), 10X Solution
pH 7.6
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP2475-100**
500 mℓ	PolyBottle	**BP2475-500**
1 ℓ	PolyBottle	**BP2475-1**

CAS: 38641-82-6

DNase	Not detected
pH (1X solution) (at 25°C)	.5-7.7
Protease	Not detected
RNase	Not detected

Applications: Tris-EDTA (TE) is used for suspending nucleic acid samples.
10X solution contains 100mM Tris and 10mM EDTA.
[60-00-4 (EDTA)] ; [77-86-1 (Tris)]
Recommended Storage: RT
Filtered through a 5-micron filter and autoclaved.

Tris-EDTA
1X Solution, pH 7.4
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP2476-100**
500 mℓ	mLPolyBottle	**BP2476-500**

CAS: 38641-82-6

DNase	Not detected
pH (1X solution) (at 25°C)	7.4±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-EDTA (TE) is routinely used for suspending nucleic acid samples.
10mM Tris and 1mM EDTA [60-00-4 (EDTA)] ; [77-86-1 (Tris)] ; [7647-01-0 (Hydrogen Chloride)]
Recommended Storage: RT
Filtered through a 5-micron filter.

Tris-EDTA
1X Solution, pH 7.6
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP2474-100**
500 mℓ	PolyBottle	**BP2474-500**
1 ℓ	PolyBottle	**BP2474-1**

CAS: 38641-82-6

DNase	Not detected
pH (1X solution) (at 25°C)	7.6±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-EDTA (TE) is routinely used for suspending nucleic acid samples.
10mM Tris and 1mM EDTA [60-00-4 (EDTA)] ; [77-86-1 (Tris)] ; [7647-01-0 (Hydrogen Chloride)]
Recommended Storage: RT
Filtered through a 5-micron filter.

Tris-EDTA
1X Solution, pH 8.0
Molecular Biology

packaging		Mfr. No
100 mℓ	PolyBottle	**BP2473-100**
500 mℓ	PolyBottle	**BP2473-500**
1 ℓ	PolyBottle	**BP2473-1**

CAS: 38641-82-6

DNase	Not detected
pH (1X solution) (at 25°C)	8.0±0.1
Protease	Not detected
RNase	Not detected

Applications: Tris-EDTA (TE) is routinely used for suspending nucleic acid samples.
10mM Tris and 1mM EDTA [60-00-4 (EDTA)] ; [77-86-1 (Tris)] ; [7647-01-0 (Hydrogen Chloride)]
Recommended Storage: RT
Filtered through a 5-micron filter.

Water
Sterile-Filtered
Molecular Biology

packaging		Mfr. No
100 mℓ	Poly Bottle	**7621T**
1 ℓ	Poly Bottle	**7621P**
4 ℓ	PolyPac*	**7621X**
10 ℓ	PolyPac*	**BP2819-10**
20 ℓ	PolyPac*	**7621W**

H_2O EINECS: 231-791-2
CAS: 7732-18-5
MW: 18.02

Cadmium (Cd)	<=10 ppb
Calcium (Ca)	<=10 ppb
Chromium (Cr)	<=10 ppb
Cobalt (Co)	<=10 ppb
Copper (Cu)	<=10 ppb
DNase	Not detected
Iron (Fe)	<=10 ppb
Lead (Pb)	<=10 ppb
Magnesium (Mg)	<=10 ppb
Manganese (Mn)	<=10 ppb
pH at 25°C	Inclusive between 5.4-7.0
Protease	Not detected
RNase	Not detected
Solubility in water	<2uS/cm
Vanadium (V)	<=10 ppb

Applications: Ideal for many fundamental procedures such as PCR, electrophoresis, DNA sequencing, and buffers for enzymatic analyses.
Description: 0.3µm filtered to ensure high purity
Recommended storage: RT

Water, Sterile
Biotech Grade

packaging		Mfr. No
20 ℓ	PolyPac*	**5387A**
4 ℓ	PolyPac*	**5387B**

H_2O EINECS: 231-791-2
CAS: 7732-18-5
MW: 18.02

Heavy Metals (Pb)	<=0.01ppm
pH (at 25°C)	5.4-7.0
Specific Conductance (at 25°C)	<=2°-10-6 ohm-1 cm-1
Substances Reducing Permanganate	To pass test

Applications: Biotech-grade water can be used for several biological test procedures.

Water, Sterile
For DNA Work
DNA Grade

packaging		Mfr. No
1 ℓ	PolyBottle	**BP2470-1**

H_2O EINECS: 231-791-2
CAS: 7732-18-5
MW: 18.02

DNase	Not detected
Protease	Not detected

Applications: DNA-grade Water is DNase- and Protease-free and is suitable for all DNA work.
Filtered through a 0.2-micron filter and autoclaved.

Water — Microbial Cell Culture-Grade
Sterile-Filtered

packaging		Mfr. No
100 mℓ	Poly Bottle	**BP2820-100**
500 mℓ	Poly Bottle	**BP2820-500**
1 ℓ	Poly Bottle	**BP2820-1**

H_2O EINECS: 231-791-2
CAS: 7732-18-5
MW: 18.02

Arsenic (As)	<=10 ppb
Cadmium (Cd)	<=10 ppb
Calcium (Ca)	<=20 ppb
Chromium (Cr)	<=10 ppb
Cobalt (Co)	<=10 ppb
Copper (Cu)	<=10 ppb
Endotoxin	<0.025 EU/mℓ
Iron (Fe)	<=10 ppb
Lead (Pb)	<=10 ppb
Magnesium (Mg)	<=10 ppb
Manganese (Mn)	<=10 ppb
Oxidizable substances	To pass test
pH at 25°C	Inclusive between 5.4-7.0
Silver (Ag)	<=10 ppb
Sodium (Na)	<=20 ppb
Solubility in water	<2uS/cm
Tin (Sn)	<=10 ppb
Vanadium (V)	<=10 ppb

Applications: For the preparation of microbiological growth media (functionally tested for promoting microbial growth).
Description: 0.3µm filtered and autoclaved
Recommended storage: RT

Water, Sterile
Nuclease Free

packaging		Mfr. No
50 mℓ	PolyBottle	**BP2484-50**
100 mℓ	PolyBottle	**BP2484-100**

H_2O EINECS: 231-791-2
CAS: 7732-18-5
MW: 18.02

DNase	Not detected
Protease	Not detected
RNase	Not detected

Applications: Diethylpyrocarbonate (DEPC)-treated Water is guaranteed nuclease-free (tested for both DNase and RNase) and is suitable for all RNA work.
Filtered through a 0.2-micron filter.

Water, Sterile — Molecular Biology
For RNA Work, DEPC-treated and Nuclease-free

packaging		Mfr. No
1 ℓ	PolyBottle	**BP561-1**

H_2O EINECS: 231-791-2
CAS: 7732-18-5
MW: 18.02

DNase	Not detected
Protease	Not detected
RNase	.Not detected
Specific Conductance (at 25°C)	.<=18°-10-6ohm-1cm-1

Applications: Diethylpyrocarbonate (DEPC)-treated Water is guaranteed nuclease-free (tested for both DNase and RNase) and is suitable for all RNA work.
DEPC-treated and autoclaved.
Filtered through a 0.2-micron filter.

Hazard Class and category

Asp. Tox. 1	Aspiration hazard; Category 1
Acute Tox. 1	Acute toxicity (oral); Category 1
Acute Tox. 2	Acute toxicity (oral); Category 2
Acute Tox. 3	Acute toxicity (oral); Category 3
Acute Tox. 4	Acute toxicity (oral); Category 4
Acute Tox. 1	Acute toxicity (dermal); Category 1
Acute Tox. 2	Acute toxicity (dermal); Category 2
Acute Tox. 3	Acute toxicity (dermal); Category 3
Acute Tox. 4	Acute toxicity (dermal); Category 4
Acute Tox. 1	Acute toxicity (inhalation); Category 1
Acute Tox. 2	Acute toxicity (inhalation); Category 2
Acute Tox. 3	Acute toxicity (inhalation); Category 3
Acute Tox. 4	Acute toxicity (inhalation); Category 4
Skin Corr. 1A	Skin corrosion/irritation; Category 1A
Skin Corr. 1B	Skin corrosion/irritation; Category 1B
Skin Corr. 1C	Skin corrosion/irritation; Category 1C
Skin Irrit. 2	Skin corrosion/irritation; Category 2
Eye Dam. 1	Serious eye damage/eye irritation; Category 1
Eye Irrit. 2	Serious eye damage/eye irritation; Category 2
Resp. Sens. 1	Respiratory sensitisation; Category 1
Skin Sens. 1	Skin sensitisation; Category 1
Muta. 1A	Germ cell mutagenicity; Category 1A
Muta. 1B	Germ cell mutagenicity; Category 1B
Muta. 2	Germ cell mutagenicity; Category 2
Carc. 1A	Carinogenicity; Category 1A
Carc. 1B	Carcinogenicity; Category 1B
Carc. 2	Carcinogenicity; Category 2
Repr. 1A	Reproductive toxicity; Category 1A
Repr. 1B	Reproductive toxicity; Category 1B
Repr. 2	Reproductive toxicity; Category 2
STOT SE 1	Specific target organ toxicity - single exposure; Category 1
STOT SE 2	Specific target organ toxicity - single exposure; Category 2
STOT SE 3	Specific target organ toxicity - single exposure; Category 3
STOT RE 1	Specific target organ toxicity - repeated exposure; Category 1
STOT RE 2	Specific target organ toxicity - repeated exposure; Category 2
Aquatic Acute 1	Hazardous to the aquatic environment - acute hazard; Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - chronic hazard; Category 1
Aquatic Chronic 2	Hazardous to the aquatic environment - chronic hazard; Category 2
Aquatic Chronic 3	Hazardous to the aquatic environment - chronic hazard; Category 3
Aquatic Chronic 4	Hazardous to the aquatic environment - chronic hazard; Category 4
Ozone	Hazardous to the ozone layer; Category 1
Flam. Liq. 1	Flammable liquid; Category 1
Flam. Liq. 2	Flammable liquid; Category 2
Flam. Liq. 3	Flammable liquid; Category 3
Flam. Sol. 1	Flammable solid; Category 1
Flam. Sol. 2	Flammable solid; Category 2
Org. Perox. C	Organic peroxide; Type C
Org. Perox. D	Organic peroxide; Type D
Ox. Liq. 1	Oxidising liquid; Category 1
Ox. Liq. 2	Oxidising liquid; Category 2
Ox. Liq. 3	Oxidising liquid; Category 3
Ox. Sol. 1	Oxidising solid; Category 1
Ox. Sol. 2	Oxidising solid; Category 2
Ox. Sol. 3	Oxidising solid; Category 3
Pyr. Sol. 1	Pyrophoric solid; Category 1
Self-heat. 1	Self-heating substance/mixture; Category 1
Self-react. C	Self-reactive substance; Type C
Met. Corr. 1	Substance/mixture corrosive to metal; Category 1
Water-react. 1	Substance/mixture which, in contact with water, emits flammable gases; Category 1
Water-react. 2	Substance/mixture which, in contact with water, emits flammable gases; Category 2
Water-react. 3	Substance/mixture which, in contact with water, emits flammable gases; Category 3