Material Safety Data Sheet

MSDS/SDS Number: 00000038MSDS

Latest Revision Date: September 15, 2009

Revision: A

SECTION 1 IDENTIFICATION OF THE SUBSTANCE OR PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: 10X TRAP Reaction Buffer

Catalogue Number(s): 73221; Component of S7700

Chemical Name: Aqueous solution of Potassium Chloride, -amino-2- (hydroxymethyl) propane-1,3-diol hydrochloride, Polyoxyehtylene (20) sorbitan monolaurate, Magnesium Chloride, and Ethylenebis (oxyethylenenitrilo) tetra (acetic acid).

Synonyms: None

Intended Product Use: Cellular Research

Manufacturer/Distributor:	Millipore Corporation (Corporate Headquarters)	Millipore S.A.S. (European Headquarters)
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Hours of Operation:	9:00 am to 4:00 pm ET (GMT -4)	9:00 am to 4:00 pm EU CT (GMT +1)

Email: msds@millipore.com

CHEMTREC Emergency Telephone Number: International +1-703-527-3887 (collect)
North America 1-800-424-9300 (toll free)

SECTION 2 HAZARDS IDENTIFICATION

GHS Hazard Class: Serious Eye Damage/ Irritation: Category 2B

Skin irritation/Corrosion: Category 3

Signal Word and Hazard Statement: Warning: Causes eye irritation (H320)

Warning: Causes mild skin irritation (H316)

EU Hazard Symbol Pictogram:  Xi (R36/38)

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Identification of Dangerous This product contains the substances listed below, which are defined

Components: as dangerous substances or hazardous chemicals as defined in European Community Directives 67/548/EEC or 1999/45/EC, and Hazard Communication Standard 29 CFR 1910.1200.

Dangerous Component	EINECS or ELINCS No.	CAS No.	Content (weight percent)	EU Hazard Symbol Letters*†	R Phrases** †
Potassium Chloride:	231-211-8	7447-40-7	< 5 %	N/A	N/A
2-amino-2- (hydroxymethyl) propane-1,3-diol hydrochloride:	214-684-5	1185-53-1	< 4 %	N/A	N/A
Polyoxyehtylene (20) sorbitan monolaurate:	N/A	9005-64-5	0.5%	N/A	N/A
Magnesium Chloride:	232-094-6	7786-30-3	< 0.1%	N/A	N/A
Ethylenebis (oxyethylenenitrilo) tetra (acetic acid):	200-651-2	67-42-5	< 0.1 %	N/A	N/A

Identification of Components Not Classified as Dangerous: This product contains the substances listed below, which are not defined as dangerous substances or hazardous chemicals as defined in European Community Directives 67/548/EEC or 1999/45/EC, and Hazard Communication Standard 29 CFR 1910.1200.

Non-Dangerous Component	EINECS or ELINCS No.	CAS No.	Content (weight percent)	EU Hazard Symbol Letters *	R Phrases**
Water:	231-791-2	7732-18-5	< 90.5 %	N/A	N/A

* Symbol letters and categories of danger: **T+** = Very toxic, **T** = Toxic, **C** = Corrosive, **Xn** = Harmful, **Xi** = Irritant, **E** = Explosive, **F+** = Extremely flammable, **F** = Very flammable, **N** = Dangerous for the environment, **O** = Oxidising.

** The full text of each R phrase is listed in Section 15.

† Symbols letters and R Phrases are assigned to each dangerous component for the highest concentration range as defined in 67/548/EEC and 1999/45/EC.

SECTION 4 FIRST AID MEASURES

	Treatment Measures:	Symptoms of Exposure:
Contact with Eyes:	If the product contacts the eyes, promptly wash (irrigate) the eyes with large amounts of tepid water for at least 15 minutes, occasionally lifting the lower and upper lids. Seek medical attention immediately.	Possible eye irritation
Ingestion:	Seek medical attention immediately. Never give an unconscious person anything by mouth.	Possible gastrointestinal irritation causing nausea and vomiting.
Inhalation:	If a person inhales large amounts of the product move the exposed person to fresh air at once. If breathing is difficult or stops seek immediate medical attention.	Possible respiratory tract and mucous membrane irritation.
Skin Contact:	If the product contacts the skin, immediately flush the	Possible skin irritation.

contaminated skin with mild soap and water. If this chemical penetrates clothing immediately remove the clothing and flush the skin with water. Seek medical attention immediately.

SECTION 5 FIRE FIGHTING MEASURES

Suitable Extinguishing Media: Use extinguishing media appropriate for the surrounding fire. This product is compatible with commercially available extinguishing media.

Special Exposure Hazards: Hazardous decomposition products that form when the substance or mixture burns

Special Protective Equipment for Firefighters: This product does not require the use of any additional fire fighting equipment beyond what is appropriate to the surrounding fire.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions: Wear chemical resistant boots, clothing, eye protection, and gloves to prevent skin contact. (See Section 8)

Small Spills: Identify the spilled material(s). Barricade the spill area and notify others in the surrounding areas. Control all sources of ignition if the substance is flammable. Don the appropriate personal protective equipment (See section 8). Control the movement of the spilled product (into drains, soil, across floors etc.) with absorbent spill materials. Collect contaminated spill material and place in container meeting appropriate U.N. packaging requirements. Decontaminate used equipment and affected spill area appropriately.

Large Spills: In addition to small spill precautions, determine personnel evacuation distances. Notify appropriate authorities if necessary.

Environmental Precautions: Collect and dispose of contaminated materials according to international, federal, state and local regulations. Keep away from surface and ground water, drains, and soil.

SECTION 7 HANDLING AND STORAGE

Handling: Seek appropriate training to safely handle this product under normal conditions. Use the recommended personal protective equipment (See Section 8) to prevent chemical exposures. Wash hands with soap and water before eating, drinking, or touching common items (phone, computer, etc.) to prevent cross contamination. Use this product with adequate ventilation. See product technical data sheet for details.

Storage: See product technical data sheet for details.

Specific use: See product technical data sheet for details.

SECTION 8 EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limit Values:	OSHA PEL	NIOSH REL	ACGIH TLV	Other
Potassium Chloride:	Not Listed	Not Listed	Not Listed	See Below
Russia:	STEL 5 mg/m^3, JUN2003			

2-amino-2- (hydroxymethyl) propane-1,3-diol hydrochloride:	Not Listed	Not Listed	Not Listed	None
Polyoxyehtylene (20) sorbitan monolaurate:	Not Listed	Not Listed	Not Listed	None
Magnesium Chloride:	Not Listed	Not Listed	Not Listed	None
Ethylenebis (oxyethylenenitrilo) tetra (acetic acid):	Not Listed	Not Listed	Not Listed	None

	Normal Handling Conditions	**Emergency Response Conditions**
Engineering Controls:	General room ventilation is adequate for the use of this product.	Provide negative pressure ventilation.
Respiratory Protection	Use appropriate respiratory protection.	Use appropriate respiratory protection.
Eye Protection:	Safety glasses with side shields.	Chemical splash goggles or other face protection as appropriate.
Skin Protection:	Laboratory coat, adequate chemical-resistant gloves.	Chemically resistant boots, clothes, and impermeable gloves as appropriate.
Environmental Exposure Controls:	Not available.	Not available.
Other Equipment:	Safety shower, eyewash stations, and hand washing equipment should be available close to the work area as needed.	

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear Colorless Liquid	
Odor:	Not Available	
Odor Threshold:	None	
pH:	Not Available	
Melting Point/Freezing point:	Not Available	
Initial boiling point and boiling range:	Not Available	
Flash Point:	Not Available	
Evaporation Rate, 20 ºC:	Not Available	
Flammability (Solid/Gas):	Not Available	
Explosive Limits:	UEL: Not Available	LEL: Not Available
Vapor Pressure:	Not Available	
Vapor Density, 20 ºC:	Not Available	
Relative Density (Water = 1.0):	Not Available	
Solubility:	Soluble	
Partition coefficient	Not Available	

(n-octanol/water):

Auto Ignition Temperature (ASTM D1929): Not Available

Decomposition temperature: Not Available

Oxidizing Properties: None

Viscosity, centipoise: Not Available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: Product is stable under normal operating conditions and use as described in the product technical data sheet.

Conditions to Avoid: See product technical data sheet for details.

Incompatible Materials to Avoid: Strong acids or bases, strong oxidizers, and extreme temperatures.

Hazardous Decomposition Products: Heating to decomposition temperature may produce carbon monoxide, carbon dioxide, nitrogen oxides.

SECTION 11 TOXICOLOGICAL INFORMATION

Toxicology Data: Toxicological information for this product as a whole does not exist, below is data for the individual components.

Potassium Chloride: RTECS #: TS8050000

Magnesium Chloride: RTECS #: OM2800000

	Toxicity Test	Exposure Route	Dose	Observed Effect
Acute Toxicity:				
Potassium Chloride:	Lowest published toxic dose (Man)	Oral	214.29 mg/kg	Gastrointestinal: Hypermotility, diarrhea Gastrointestinal: Nausea or vomiting[1]
	LD_{50} (Rat)	Oral	2,600 mg/kg	N/A[2]
Polyoxyehtylene (20) sorbitan monolaurate:	LD_{50} (Mouse)	Intravenous	1,420 mg/kg	N/A[3]
	LD_{50} (Mouse)	Oral	> 33 gm/kg	N/A[4]
Magnesium Chloride:	LD_{50} (Rat)	Oral	2,800 mg/kg	Behavioral: Convulsions or effect on seizure threshold Cardiac: Other changes Lung, Thorax, or Respiration: Other changes[5]
Ethylenebis (oxyethylenenitrilo) tetra (acetic acid):	LD_{50} (Rat)	Oral	3,587 mg/kg	N/A[6]
	LD_{50} (Mouse)	Intraperitoneal	150	N/A[7]

			mg/kg	
Skin Corrosion/Irritation:	N/A			
Serious Eye Damage/Eye Irritation:	N/A			
Respiratory or Skin Sensitization:	N/A			
Germ Cell Mutagenicity:				
Potassium Chloride:	DNA damage	Human leukocyte	1 mmol/L/2 hour	N/A[8]
Magnesium Chloride:	DNA damage	Human fibroblast	20 mmol/L	N/A[9]
Reproductive Toxicity:	N/A			
STOST-Single Exposure:	N/A			
STOST-Repeated Exposure:	N/A			
Aspiration Hazard:	N/A			
Carcinogenicity:	Carcinogenetic information for this product as a whole does not exist, below is data for the individual components.			

Research Agency:	OSHA:	NTP:	IARC:
Potassium Chloride:	Not Listed	Not Listed	Not Listed
2-amino-2- (hydroxymethyl) propane-1,3-diol hydrochloride:	Not Listed	Not Listed	Not Listed
Polyoxyehtylene (20) sorbitan monolaurate:	Not Listed	Not Listed	Not Listed
Magnesium Chloride:	Not Listed	Not Listed	Not Listed
Ethylenebis (oxyethylenenitrilo) tetra (acetic acid):	Not Listed	Not Listed	Not Listed

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity:	Ecotoxicity information for this product as a whole does not exist, below is data for the individual components.
Potassium Chloride:	LC_{50} Gambusia Affinis 24 Hours 5,300,000 ug/L[10] LC_{50} Gambusia Affinis 48 Hours 2,200,000 ug/L[10] LC_{50} Gambusia Affinis 96 Hours 485,000 ug/L[10]
2-amino-2- (hydroxymethyl) propane-1,3-diol hydrochloride:	Not Available
Polyoxyehtylene (20) sorbitan monolaurate:	LC_{50} Poecilia Reticulata 24 Hours 350,000 ug/L[11]

	LC_{50} Gambusia Affinis 24 Hours 4,780,000 ug/L[12]
Magnesium Chloride:	LC_{50} Gambusia Affinis 48 Hours 4,530,000 ug/L[12]
	LC_{50} Gambusia Affinis 96 Hours 4,210,000 ug/L[12]
Ethylenebis (oxyethylenenitrilo) tetra (acetic acid):	Not Available
Mobility:	Not Available
Persistence and Degradation:	Not Available
Bio Accumulative Potential:	Not Available
Results of PBT Assessment:	Not Available
Other adverse effects:	None known.

SECTION 13 DISPOSAL INFORMATION

Substance:	Dispose of unused contents in accordance with international, federal, state, and local regulations.
Contaminated Packaging:	Dispose of container in accordance with international, federal, state and local requirements.

SECTION 14 TRANSPORTATION INFORMATION

UN Number:	Not Listed
Class:	Not Listed
Proper Shipping Name:	Not Listed
Packing Group:	Not Listed
Marine Pollutant:	Not Listed
Other Applicable Information:	None

SECTION 15 REGULATORY INFORMATION

Australia:	Hazchem Code:	Not Listed
	Poisons Schedule Number:	Not Listed
California:	Proposition 65 Listed:	Not Listed
Canada:	WHMIS:	D2B
European Union:	REACH:	Chemical Safety Assessment for the substance or substances in the preparation not required.
	Substances of Very High Concern (SVHC) - October 28th, 2008:	This product does not contain SVHC's in concentrations above 0.1% weight/weight.
	Category of danger:	Xi: Irritant

	Risk phrases:	R36/38: Irritating to skin and eyes.
	Safety phrases:	S7/9: Keep container tightly closed and in a well-ventilated place. S20/21: When using do not eat, drink or smoke. S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S27/28: After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and tepid water. S29/35: Do not empty into drains; dispose of this material and its container in a safe way. S36/37/39: Wear suitable protective clothing, gloves and eye/face protection. S45: In case of accident or if you feel unwell, seek medical advice immediately
	OECD/High Production Volume (HPV) chemicals:	Potassium Chloride and Magnesium Chloride.
	RoHS:	This product does not contain RoHS listed substances in concentrations above the established thresholds.
Japan:	Poisonous and Deleterious Substances Control Law:	Not Listed

SECTION 16 ADDITIONAL INFORMATION

Training Advice: Seek effective chemical handling training to reduce the hazards associated with this product prior to use.

Technical Contact: http://www.millipore.com/support

Abbreviations Used

ACGIH	American Conference of Government Industrial Hygienists
ADR	European agreement on the international carriage of dangerous goods on road
CAS	Chemical Abstract Service
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EPA	United States Environmental Protection Agency
IARC	International Agency for Research in Cancer.
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	Regulations regarding the transportation of dangerous goods on ocean-going vessels issued by the International Maritime Organization.
LC_{50}	Lethal Concentration 50% is the concentration of a chemical which kills 50% of a sample population
LD_{50}	Lethal Dose 50% is the dose of a chemical which kills 50% of a sample population.
LDLo	Lowest observed lethal dose
LEL	Lower Explosive Limit
MSFU	Manufacture, Formulation, Supply and Use (Section 13)

NIOSH	National Institute of Occupational Safety and Health (US)
NTP	National Toxicology Program (US)
OSHA	United States Occupational Safety and Health Administration
RID	International regulations concerning the international carriage of dangerous goods by rail.
RTECS	Registry of Toxic Effects of Chemical Substances (US)
STOST	Specific Target Organ Systemic Toxicity
UEL	Upper Explosive Limit
WHMIS	Workplace Hazardous Materials Information System (Canada)

This safety data sheet has been prepared to comply with the requirements of the European Union regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) 1906/2006 and ANSI standard Z400.1-1998.

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[1] Journal of Toxicology, Clinical Toxicology. (Marcel Dekker, 270 Madison Ave., New York, NY 10016) V.19-1982.

[2] Encyclopedia of Toxicology: Reference Book, Elsevier, 2005.

[3] Research Progress in Organic-Biological and Medicinal Chemistry. Vol. 2, Pg. 316, 1970.

[4] Arzneimittel-Forschung. Drug Research. Vol. 26, Pg. 1581, 1976.

[5] Journal of Pharmacology and Experimental Therapeutics. (Williams & Wilkins Co., 428 E. Preston St., Baltimore, MD 21202) V.1- 1909/10.

[6] Toxicology and Applied Pharmacology. Vol. 16, Pg. 807, 1970.

[7] National Technical Information Service. Vol. AD691-490.

[8] Environmental and Molecular Mutagenesis. (Alan R. Liss, Inc., 41 E. 11th St., New York, NY 10003) V.10-1987.

[9] Mutation Research. (Elsevier Science Pub. B.V., POB 211, 1000 AE Amsterdam, Netherlands) V.1- 1964-

[10] Wallen, I.E., W.C. Greer, and R. Lasater, Toxicity to Gambusia affinis of Certain Pure Chemicals in Turbid Waters, Sewage Ind.Wastes 29(6):695-711, 1957.

[11] Yarzhombek, A.A., A.E. Mikulin, and A.N. Zhdanova, Toxicity of Substances in Relation to Form of Exposure (Toksichnost Vestichestv diya ryb v Zavisimosti ot Sposoba Vozdejstviya), J.Ichthyol / Vopr.Ikhtiol.31(3):496-502(RUS) 31(7):99-106, 1991.

[12] Wallen, I.E., W.C. Greer, and R. Lasater, Toxicity to Gambusia affinis of Certain Pure Chemicals in Turbid Waters, Sewage Ind.Wastes 29(6):695-711, 1957.