



Material Safety Data Sheet

MSDS/SDS Number: 00003035MSDS
Latest Revision Date: April 6, 2011
Revision: A

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

Product Name: dNTP Mix.
Catalogue Number(s): See Section 16.
Chemical Name: Aqueous solution containing [2-amino-2- (hydroxymethyl) propane-1,3-diol hydrochloride], [2'-deoxyadenosine 5'-(disodium dihydrogen triphosphate)], [2'-deoxycytidine 5'-triphosphate disodium salt], [Guanosine 5'-(tetrahydrogen triphosphate), 2'-deoxy-, trisodium salt], [Thymidine 5'-(trisodium hydrogen triphosphate)] and Proprietary Ingredients.
Synonyms: 50X dNTP Mix.
Intended Product Use: Intended for research use only.
Manufacturer/Distributor: Millipore Corporation (Corporate Headquarters) Millipore S.A.S. (European Headquarters)
Postal Address: 290 Concord Road Billerica MA, 01821 USA Boite Postale 116 Molsheim Cedex, 67124 France
Telephone Number: +1-978-715-1335 +33(0)3 90 46 90 00
Hours of Operation: 9:00 am to 4:00 pm ET (GMT -5) 9:00 am to 4:00 pm EU CT (GMT +1)
Worldwide Offices: <http://www.millipore.com/offices/cp3/officeshome>
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

Globally Harmonized System of Classification and Labeling of Chemicals (GHS):

Symbol: **Hazard Category:** 5: Acute Toxicity
Signal Word: Warning
No Symbol **Hazard Statement:** H303+H313+H333: May be harmful if swallowed, in contact with skin or if inhaled.

GHS Precautionary Statements:

Prevention: P281: Use personal protective equipment as required.
Response: P312: Call a POISON CENTER/doctor/physician if you feel unwell.

P308+P313: If exposed or concerned: Get medical advice/attention.

Storage: P403+P233: Store in a well ventilated place. Keep container tightly closed.

Disposal: P501: Dispose of content/container in accordance with local regulations.

Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH):

Symbol: **Symbol Letter:** *None Applicable.*
Hazard: *None Applicable.*
No Symbol **Risk Phrase:** *None Applicable.*

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Identification of Dangerous Components: This product contains the substances listed below, which are 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.

Dangerous Component	EINECS or ELINCS No.	CAS No.	Content (weight percent)	EU Hazard Symbol Letters**†	R Phrases*** †
2-amino-2- (hydroxymethyl) propane-1,3- diol hydrochloride:	214-684-5	1185-53-1	< 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
2'-deoxyadenosine 5'-(disodium dihydrogen triphosphate):	277-809-2	74299-50-6	< 1 %	N/A	N/A
2'-deoxycytidine 5'-triphosphate disodium salt:	Not Listed	102783-51-7	< 1 %	N/A	N/A
Guanosine 5'-(tetrahydrogen triphosphate), 2'-deoxy-, trisodium salt:	300-026-5	93919-41-6	< 1 %	N/A	N/A
Thymidine 5'-(trisodium hydrogen triphosphate):	248-679-4	27821-54-1	< 1 %	N/A	N/A
Proprietary Ingredients:	Trade Secret	Trade Secret	Proprietary	N/A	N/A
Water:	231-791-2	7732-18-5	> 95 %	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** = Highly 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, redness and lacrimation.
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 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.	Possible skin irritation with repeated or prolonged exposure.

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 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
2-amino-2- (hydroxymethyl) propane-1,3- diol hydrochloride:	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:	Not Available
pH:	Not Available
Melting Point/Freezing Point:	Essentially that of Water
Initial Boiling Point and Boiling Range:	Essentially that of Water
Flash Point:	Not Available
Evaporation Rate, 20 °C:	Not Available
Flammability (Solid/Gas):	Not Available

Explosive Limits:	LEL: Not Available	UEL: Not Available
Vapor Pressure:	Not Available	
Vapor Density, 20 °C:	Not Available	
Relative Density (Water = 1.0):	Essentially that of Water	
Solubility:	Soluble	
Partition Coefficient (n-octanol/water):	Not Available	
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.			
	Toxicity Test	Exposure Route	Dose	Observed Effect
Acute Toxicity:	Not Available			
Skin Corrosion/Irritation:	Not Available			
Serious Eye Damage/Eye Irritation:	Not Available			
Respiratory or Skin Sensitization:	Not Available			
Germ Cell Mutagenicity:	Not Available			
Reproductive Toxicity:	Not Available			
STOST-Single Exposure:	Not Available			
STOST-Repeated Exposure:	Not Available			
Aspiration Hazard:	Not Available			
Carcinogenicity:	Carcinogenetic information for this product as a whole does not exist, below is data for the individual components.			

Research Agency:	OSHA:	NTP:	IARC:
2-amino-2- (hydroxymethyl) propane-1,3- diol hydrochloride:	Not Listed	Not Listed	Not Listed

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: Ecotoxicity information for this product as a whole does not exist.

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:	Not Listed.
European Union:	REACH:	Chemical Safety Assessment for the substance or substances in the preparation not required.
	Substances of Very High Concern (SVHC) - January 13, 2010:	This product does not contain SVHC's in concentrations above 0.1% weight/weight.

Category of Danger: None Applicable.

Risk Phrases: None Applicable.

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: Water.

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

Product Number: Product Name:

90389 dNTP Mix(2.5mM each), 4 mL.
 90406 50X dNTP Mix, 112 µL.
 90468 dNTP Mix (2.5mM each), 160 µL.
 90406-K dNTP Mix, Custom
 73353 dNTP Mix, Bulk

Component of Kit Number: Product Name:

S7907 Amplifluor[®] SNPs Genotyping System for Assay Development
 S7908 Amplifluor[®] SNPs HT Genotyping System FAM-SR
 S7909 Amplifluor[®] SNPs HT Genotyping System FAM-JOE
 S7700 TRAPeZe[®] Telomerase Detection Kit
 S7700FR TRAPeZe[®] Telomerase Detection Kit (-20 °C)

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	International Maritime Dangerous Goods
LC ₅₀	Lethal Concentration 50%
LD ₅₀	Lethal Dose 50%
LC ₁₀₀	Lethal Concentration 100%
LD ₁₀₀	Lethal Dose 100%
LDLo	Lowest Observed Lethal Dose
LEL	Lower Explosive Limit
MFSU	Manufacture, Formulation, Supply and Use
NIOSH	National Institute of Occupational Safety and Health
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	United States Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PNOR	Particulate Not Otherwise Regulated
PNOS	Particulate Not Otherwise Specified
REL	Recommended Exposure Limit
RID	International regulations concerning the international carriage of dangerous goods by rail.
RTECS	Registry of Toxic Effects of Chemical Substances
STEL	Short Term Exposure Limit
STOST	Specific Target Organ Systemic Toxicity
TLV	Threshold Limit Value
TWA	Time Weighted Average
UEL	Upper Explosive Limit
WHMIS	Workplace Hazardous Materials Information System

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.

Millipore and the M mark are registered trademarks of Millipore Corporation.

© 2011 Millipore Corporation. All rights reserved. The above information is believed to be current and accurate; however, Millipore makes no warranty with respect to such information and assumes no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.