



Material Safety Data Sheet

MSDS/SDS Number: M118098
Issue Date: May 21, 2008
Latest Revision Date: --
Revision: --

SECTION 1 IDENTIFICATION OF THE SUBSTANCE OR PREPARATION AND OF THE COMPANY / UNDERTAKING – CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Trade Name: Mg²⁺ Lysis/Wash Buffer, 5X
Catalogue Number(s): 20-168
Chemical Name: An aqueous solution of HEPES, Igepal CA-630, magnesium chloride, EDTA, and glycerol.
Product use: Biological research reagent
Other trade names and synonyms: None
Manufacturer/Distributor: Millipore Corporation (Corporate Headquarters) Millipore S.A.S. (European Headquarters)
Postal Address: 290 Concord Road, Billerica MA, USA Boite Postale 116, 67124 Molsheim Cedex, France
Telephone Number: +1-978-715-1335 +33(0)3 90 46 90 00
Email: msds@millipore.com
CHEMTREC Emergency Telephone Number: International +1-703-527-3887 (collect)
North America 1-800-424-9300 (toll free)

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Component	EINECS or ELINCS No.	CAS No.	Content (weight percent)	Symbol letters*	R Phrases**
(Octylphenoxy)polyethoxy ethanol (Igepal CA630)	Unlisted	9036-19-5	4-5%	Xn	R22, R41
N-(Hydroxyethyl)piperazine-N'-2-ethanesulfonic acid (HEPES)	230-907-9	7365-45-9-	2-3%	Xi	R36/37/38
Ethylenediaminetetraacetic Acid	200-449-4	60-00-4	0.1-0.2%	Xi	R36
Glycerol	200-289-5	56-81-5	10%	None	None

- This product also contains magnesium chloride, sodium chloride and water that are not 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).

* 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 phrase is listed in Section 16.

SECTION 3 HAZARD IDENTIFICATION / EMERGENCY OVERVIEW

Appearance: Colorless liquid

Classification: This product is classified as Irritant, **Xi**, according to Directive 1999/45/EC.

Adverse human health effects:

Contact with Eyes: Moderate to severe eye irritant. HEPES may cause permanent eye injury.

Ingestion: Digestive tract irritant; may cause nausea and diarrhea, and be harmful if swallowed.

Inhalation (Short Term): Possible respiratory tract and mucous membrane irritant.

Inhalation (Long Term): No information found.

Skin Contact: Possible skin irritant. HEPES and Igepal CA630 may be absorbed through the skin.

Target Organs: HEPES: Respiratory system, eyes, skin.

Medical conditions aggravated by exposure: No information found.

Adverse environmental effects: This product may be harmful to aquatic organisms. See section 12.

Adverse physiochemical effects: None expected.

SECTION 4 FIRST AID MEASURES

- Contact with Eyes:** In case of contact with eyes, seek immediate medical attention. Flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers
- Ingestion:** If swallowed, summon medical assistance, and then wash out mouth with water provided person is conscious. Do not induce vomiting unless directed to do so by a health care provider.
- Inhalation:** If inhaled, get medical aid immediately. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
- Skin Contact:** In case of contact, immediately wash skin with soap and copious amounts of water. If irritation or redness occurs, seek medical attention

SECTION 5 FIRE FIGHTING MEASURES

- Flash Ignition Temperature:** None; Not considered to be a fire hazard.
- Autoignition Temperature (ASTM D1929):** No information found.
- Flammability Limits:** Not applicable
- Suitable extinguishing media:** Employ media suitable to the surrounding fire.
- Unsuitable extinguishing media:** None reported.
- Special protective equipment for firefighters:** In a fire, large quantities of this product may generate significant quantities of irritating aerosols. Self contained breath apparatus is required.
- Special exposure hazards:** Approach first from upwind direction to avoid aerosols.

SECTION 6 ACCIDENTAL RELEASE MEASURES

- Personal precautions:** Area evacuation is not required. Eliminate unnecessary traffic in area of the spill. Wear chemically resistant boots, clothing and gloves (nitrile, neoprene) to prevent skin contact, since sodium azide may be absorbed through the skin.
- Small spills:** Clean up spills immediately. Wear appropriate protective clothing and if necessary breathing apparatus. Contain spill and absorb with sand, earth, or vermiculite. Collect residues and place in labeled plastic containers. Avoid breathing vapors and contact with skin and eyes.
- Large spills:** In addition to Small Spill precautions, clear area of all unnecessary personnel and move upwind, if aerosol formation is possible..
- Environmental precautions:** May be discharged into sewer, or industrial waste water systems if allowed by local regulations. Otherwise, collect and dispose according to federal, state and local regulations.
- Clean up measures:** Small spills may be adsorbed on paper towels, and stored in closed containers pending final disposition. Larger spill may be absorbed in sand, sawdust or vermiculite, and stored in closed containers pending final disposition (See section 13). Wash spill area with detergent and water to remove residual contamination. This water may be disposed to the sanitary sewer.

SECTION 7 HANDLING AND STORAGE

Handling:	Avoid contact with eyes and skin. Wear gloves. Do not inhale aerosols or vapors. May be harmful if swallowed. Use personal protective equipment outlined in section 8. Wash thoroughly after handling Use with adequate ventilation
Storage:	Store frozen at -20°C, unless directed otherwise by the product data sheet.

SECTION 8 EXPOSURE CONTROL AND PERSONAL PROTECTION

	Normal Handling Conditions	Emergency Response Conditions
Respiratory protection:	Not normally required for normal use.	If aerosols are present - air purifying respirator with organic cartridges
Ventilation:	General room ventilation	If aerosols are present, provide exhaust ventilation
Eye protection:	Safety glasses with side shields	Chemical splash goggles.
Skin protection:	Nitrile gloves and laboratory coat.	Chemically resistant jacket, pants, gloves, boots and head covering

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless liquid
Odor:	None
Odor Threshold:	No data have been found
pH:	7.5
Melting Point:	-2 to -6°C
Boiling Point:	104 to 108°C
Flash Ignition Point:	None; Not considered to be a fire hazard.
Explosive Properties:	Not considered to be an explosion hazard.
Oxidizing Properties:	Not considered to have oxidising properties.
Vapor pressure, 20 °C:	<1 mm Hg
Specific Gravity (Water = 1.0):	1.05 – 1.1
Solubility	Miscible with water
Vapor Density, 20 °C:	Essentially that of water
Viscosity, centipoise:	Not available
Partition coefficient (n-octanol/water):	Not available

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures
Conditions to Avoid:	Elevated temperature, contact with incompatible materials.
Incompatible With:	Strong oxidizing agents.
Hazardous Decomposition Products:	Oxides of carbon and nitrogen, chlorine compounds
Hazardous Polymerization:	Will not occur

SECTION 11 TOXICOLOGICAL INFORMATION

Inhalation:	May cause respiratory tract and mucous membrane irritation.
Ingestion:	Will cause digestive tract irritation; may cause nausea and diarrhea, and be harmful if swallowed.
Skin Contact:	May cause skin irritation. HEPES and Igepal CA630 may be absorbed through the skin.
Eye Contact:	May cause moderate to severe eye irritation. HEPES may cause permanent eye injury.
Carcinogenicity:	None of the components of this product are listed as carcinogenic by ACGIH, IARC, NTP, OSHA or California proposition 65..
Chronic Toxicity:	No information found.
Toxicology Data:	Toxicological information for this product as a whole does not exist;

Selected data for the individual components:

Compound: Glycols, polyethylene, mono((1,1,3,3-tetramethylbutyl) phenyl) ether (100%)	RTECS#: MD0907600
LD ₅₀ , oral, rat:	4,190 mg/kg
LD ₅₀ , oral, mouse:	3,500 mg/kg
Standard Draize test, eyes, rabbit, 1%	Severe
These compounds have been investigated as mutagens and primary irritants.	
Compound: N-(Hydroxyethyl)piperazine-N'-2-ethanesulfonic acid (HEPES) (100%)	RTECS#: MD0907600
LD ₅₀ , oral, quail	> 316 mg/kg.
Compound: Glycerol (100%)	RTECS#: MA8050000
LD ₅₀ , oral, rat:	12,600 mg/kg

SECTION 12 ECOLOGICAL INFORMATION

Ecotoxicity: - No information was found for the product as a whole, or for the major component

Environmental Fate: No information was found for the product as a whole, or for the major component compounds. It is expected that Igepal CA-630 and HEPES will persist in the aquatic environment and in soils.

SECTION 13 DISPOSAL INFORMATION

This product may be disposed to an industrial sewer system, if permitted by local regulation; Dispose in a manner consistent with national, state, and local regulations.

European Community: When disposal is required, this product be considered according to the European Waste catalogue (European commission decision of 03/05/01 modifying directives 94/3/CE and 75/442/CE) as part of the following category:

16 10 01* aqueous liquid wastes containing dangerous substances

United States: This product does not may meet the definition of a US Environmental Protection Agency RCRA hazardous waste. Unused product should be disposed of in a manner consistent with federal, state and local regulations.

SECTION 14 TRANSPORTATION INFORMATION

The transportation of these products is not regulated by IMDG (sea), ADR (road), RID (rail), ICAO/IATA (air), or USDOT as a dangerous goods or hazardous material.

SECTION 15 REGULATORY INFORMATION

Australia: Hazchem Code: None Allocated

Poisons Schedule Number: None Allocated

California: No Significant Risk Level: None of the chemicals in these products are known to Millipore Corporation to be listed.

Canada: WHMIS: These products have WHMIS classifications of **D2**

Section 15 – Regulatory Information (continued)

European Community:	Symbols:	Xi
	Category of danger:	Irritant
	Risk phrases:	R36
	Safety phrases:	S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
		S37/39 Wear suitable gloves and eye/face protection
	OECD/High Production Volume (HPV) chemicals:	Glycerol is listed as a High Volume Production chemical.
	WEEE and RoHS:	The WEEE and RoHS Directives are not applicable to these products.
Japan:	Poisonous and Deleterious Substances Control Law:	None of the components of this product are listed under the Poisonous and Deleterious Substances Control Law
United States	Toxic Substances Control Act:	All components of this product are listed on the EPA Toxic Substances Control Act (TSCA) Inventory

Occupational Exposure Limits

Component	Occupational Exposure Limits, mg/m ³	
Glycerol	European Community Workplace Exposure Limits	None established
	ACGIH TLV, Australia OEL, Belgium OEL, France OEL, The Netherlands OEL, United Kingdom OEL	10 mg/m ³ TWA
	United States OSHA PEL:	15 mg/m ³ TWA Total
		5 mg/m ³ TWA Respirable fraction
	Finland OEL	20 mg/m ³ TWA
Other components	Exposure limits have not been established.	

SECTION 16 ADDITIONAL INFORMATION

Risk phrases referred to under Section 2:

R22	Harmful if swallowed
R36	Irritating to eyes
R36/37/38	Irritating to eyes, respiratory system and skin
R41	Risk of serious damage to eyes

Section 16 (continued)

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.
IOELV	Indicative Occupational Exposure Limit Value (EU)
IUCLID	International Uniform Chemical Information Database
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
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)
VLE	15 minute short term exposure limit (France)
WHMIS	Workplace Hazardous Materials Information System (Canada)

This safety data sheet has been prepared to comply with the requirements of European Community Directive 2001/58/EC and ANSI Z400.1-1998.

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