

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name HARD 1 Reagent

Other means of identification

Product Code(s) P-4259
UN-No 2796

Recommended use of the chemical and restrictions on use

Recommended Use Industrial (not for food or food contact use). Use as a laboratory reagent.

Details of the supplier of the safety data sheet

Manufacturer Address
 LaMotte Company, Inc.
 802 Washington Avenue
 P.O. Box 329
 Chestertown, MD 21620 USA
 T 410-778-3100
 F 410-778-9748

Emergency telephone number

24 Hour Emergency Number (CHEM-TEL):USA, Canada, Puerto Rico 1-800-255-3924 Outside North American Continent (Call collect) 813-248-0585

2. HAZARDS IDENTIFICATION

Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

EMERGENCY OVERVIEW

DANGER

Hazard statements

Causes severe skin burns and eye damage.



Appearance Clear, colorless

Physical state liquid

Odor Odorless

Precautionary Statements - Prevention

Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Keep out of the reach of children.

Precautionary Statements - Response

Immediately call a POISON CENTER or physician.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water Wash contaminated clothing before

reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF SWALLOWED Rinse mouth Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Magnesium chloride, hexahydrate	7791-18-6	<0.1
Sodium hydroxide	1310-73-2	5.4
Triethanolamine	102-71-6	5.6

4. FIRST AID MEASURES

First Aid Measures

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.

Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Call a physician immediately.

Inhalation

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. Call a physician immediately.

Ingestion

Do NOT induce vomiting. Call a physician immediately. Drink plenty of water. Never give anything by mouth to an unconscious person.

Self-protection of the first aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protection recommended in Section 8.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical or CO₂. DO NOT USE WATER.

Specific hazards arising from the chemical

React vigorously and/or explosively with water.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Do not taste or swallow. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from incompatible materials such as cyanides or sulfides. Store away from strong bases or metals. Do not store near combustible materials. Keep out of the reach of children.

Incompatible Products Water. Strong bases. Metals. Cyanides. Sulfides. Formaldehyde. Take any precaution to avoid mixing with combustibles.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Magnesium chloride, hexahydrate 7791-18-6	-	-	Not Established
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³
Triethanolamine 102-71-6	TWA: 5 mg/m ³	-	Not Established

Appropriate engineering controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear a face protection shield. Ensure that eyewash stations and safety showers are close to the workstation location.

Skin and body protection Gloves & Lab Coat. Impervious clothing. Protective gloves. Nitrile rubber.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Take off contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Odorless
Appearance	Clear, colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	13-14	No information available
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	.	
Vapor density	>1	
Specific gravity	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	
Other Information		
Softening point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Density	No information available	
Bulk density	No information available	

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Hazardous Reactions	Reacts violently with water. Contact with metals may evolve flammable hydrogen gas.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Excessive heat. Incompatible Products. Protect from moisture.
Incompatible materials	Water. Strong bases. Metals. Cyanides. Sulfides. Formaldehyde. Take any precaution to avoid mixing with combustibles.
Hazardous decomposition products	Hydrogen gas. Sulfur oxides (SO _x).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Magnesium chloride, hexahydrate 7791-18-6	= 8100 mg/kg (Rat) = 2800 mg/kg (Rat)	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	= 1350 mg/kg (Rabbit)	Not Established
Triethanolamine 102-71-6	= 4190 mg/kg (Rat)	> 16 mL/kg (Rat) > 20 mL/kg (Rabbit)	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Magnesium chloride, hexahydrate	Not Established	Not Established	Not Established	Not Established

7791-18-6				
Sodium hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Triethanolamine 102-71-6	Not Established	Group 3	Not Established	Not Established

IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans

ATEmix (oral) 74821
ATEmix (dermal) 23194 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Magnesium chloride, hexahydrate 7791-18-6	2200: 72 h Desmodesmus subspicatus mg/L EC50	1970 - 3880: 96 h Pimephales promelas mg/L LC50 static 4210: 96 h Gambusia affinis mg/L LC50 static	140: 48 h Daphnia magna mg/L EC50 Static 1400: 24 h Daphnia magna mg/L EC50
Sodium hydroxide 1310-73-2	Not Established	45.4: 96 h Oncorhynchus mykiss mg/L LC50 static	Not Established
Triethanolamine 102-71-6	169: 96 h Desmodesmus subspicatus mg/L EC50 216: 72 h Desmodesmus subspicatus mg/L EC50	10600 - 13000: 96 h Pimephales promelas mg/L LC50 flow-through 450 - 1000: 96 h Lepomis macrochirus mg/L LC50 static 1000: 96 h Pimephales promelas mg/L LC50 static	1386: 24 h Daphnia magna mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

When released into the soil, this material may leach into ground water. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet or dry deposition.

Chemical name	Log Pow
Magnesium chloride, hexahydrate 7791-18-6	Not Established
Sodium hydroxide 1310-73-2	Not Established
Triethanolamine 102-71-6	-2.53

13. DISPOSAL CONSIDERATIONS

Disposal Methods

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Dispose of waste product or used containers according to local regulations. Should not be released into the environment.

Contaminated packaging

Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Magnesium chloride, hexahydrate 7791-18-6	Not Established	-	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	-	Not Established	Not Established
Triethanolamine 102-71-6	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Magnesium chloride,	Not Established	Not Established	Not Established	Not Established

hexahydrate 7791-18-6				
Sodium hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Triethanolamine 102-71-6	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Magnesium chloride, hexahydrate 7791-18-6	-
Sodium hydroxide 1310-73-2	-
Triethanolamine 102-71-6	-

14. TRANSPORT INFORMATION

DOT

Proper shipping name SULFURIC ACID (with <51% ACID)
UN-No 2796
Hazard Class 8
Packing group II
Reportable Quantity (RQ) 1000

IATA

Proper shipping name SULFURIC ACID (with <51% ACID)
UN-No 2796
Hazard Class 8
Packing group II

IMDG/IMO

Proper shipping name SULFURIC ACID (with <51% ACID)
UN-No 2796
Hazard Class 8
Packing group II

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
DSL/NDSL Does not comply
EINECS/ELINCS Does not comply
ENCS Complies
IECSC Complies
KECL Does not comply
PICCS Complies
AICS Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Magnesium chloride, hexahydrate 7791-18-6	Not Established
Sodium hydroxide 1310-73-2	Not Established
Triethanolamine 102-71-6	Not Established

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Magnesium chloride, hexahydrate 7791-18-6	Not Established	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Triethanolamine 102-71-6	Not Established	Not Established	Not Established	Not Established

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
Magnesium chloride, hexahydrate 7791-18-6	-	Not Established	-
Sodium hydroxide 1310-73-2	1000 lb	Not Established	RQ 1000 lb final RQ RQ 454 kg final RQ
Triethanolamine 102-71-6	-	Not Established	-

US State Regulations**California Proposition 65**

Chemical name	California Proposition 65
Magnesium chloride, hexahydrate 7791-18-6	Not Established
Sodium hydroxide 1310-73-2	Not Established
Triethanolamine 102-71-6	Not Established

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Magnesium chloride, hexahydrate 7791-18-6	Not Established	Not Established	Not Established
Sodium hydroxide 1310-73-2	X	X	X
Triethanolamine 102-71-6	X	X	X

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances
Sodium hydroxide 1310-73-2	Banned, 16 CFR 1500.17 (>=10% by weight in liquid drain cleaners); Add POISON to label, 16 CFR 1500.129 (>=10%, free or chemically unneutralized)

16. OTHER INFORMATION

NFPA **Health hazard 3** **Flammability 0** **Instability 2** **Physical and Chemical Hazards N/A**

Health hazard 3

Stability 2



Health Hazard	3
Fire Hazard	0
Reactivity	2

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Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Material Safety Data Sheet