Safety Data Sheet

Issuing Date Aug-27-2012 **Revision Number** 0

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

Product identifier

Product name **HARDNESS REAGENT #7**

Other means of identification

Product Code(s) **4487**

Recommended use of the chemical and restrictions on use

Recommended Use Test kit reagent. Laboratory chemicals. Industrial (not for food or food contact use).

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

EMERGENCY OVERVIEW

Appearance Clear, colorless **Physical state** liquid **Odor** Odorless

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%
Tergitol No. 4	139-88-8	<0.01
Diethylene glycol monoethyl ether	111-90-0	<0.01
Magnesium chloride, hexahydrate	7791-18-6	<0.04
Sodium hydroxide	1310-73-2	0.04
EDTA disodium salt, dihydrate	6381-92-6	1
Water	7732-18-5	to 100%

4. FIRST AID MEASURES

FIRST AID MEASURES

General advice Do not get in eyes, on skin, or on clothing.

Eye contact Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. If irritation persists or develops, contact a physician.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. If irritation develops or persists, consult physician.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Consult a physician.

Ingestion Drink plenty of water. If gastrointestinal distress occurs contact physician. Never give anything by mouth to an unconscious person.

Self-protection of the first aider Use personal protective equipment. See Section 8 for more detail. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Dry chemical, CO_2, water spray or alcohol-resistant foam.

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. Avoid contact with skin, eyes, and inhalation of vapors. Use personal protective equipment. Refer to Section 8.

Methods and material for containment and cleaning up

Methods for containment Absorb/Cover spill with sodium bicarbonate or sodium carbonate to neutralize, then place in a chemical waste container for later disposal. Dispose according to local regulations, if permitted dissolve in water and rinse to drain.

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. Prevent contact with skin, eyes, and clothing. Do not ingest. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool, and well-ventilated place. Keep out of the reach of children.

Incompatible Products Strong oxidizing agents. copper. Aluminium.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Tergitol No. 4	-	-	None Established

139-88-8			
Diethylene glycol monoethyl ether 111-90-0	-	-	None Established
Magnesium chloride, hexahydrate 7791-18-6	-	-	None Established
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m³	TWA: 2 mg/m³	IDLH: 10 mg/m³ Ceiling: 2 mg/m³
EDTA disodium salt, dihydrate 6381-92-6	-	-	None Established
Water 7732-18-5	-	-	None Established

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face Protection Safety glasses with side-shields.

Skin and body protection Wear protective gloves/clothing.

Respiratory protection No special protective equipment required under normal use conditions.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state liquid
Appearance Clear, colorless **Odor** Odorless

Property	Values	Remarks • Method
pH		
Melting point/freezing point	No information available	
Boiling Point/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	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Water solubility	No information available	
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 normal conditions of use and storage.
Hazardous Reactions Contact with metals may evolve flammable hydrogen gas.

Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Temperature extremes.
Incompatible materials Strong oxidizing agents. copper. Aluminium.
Hazardous decomposition products Carbon oxides (COx). Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Component Information

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tergitol No. 4 139-88-8	= 1250 mg/kg (Rat)	= 3 mL/kg (Rabbit)	None Established
Diethylene glycol monoethyl ether 111-90-0	= 1920 mg/kg (Rat)	= 4200 µL/kg (Rabbit) = 6 mL/kg (Rat)	> 5240 mg/m³ (Rat) 4 h
Magnesium chloride, hexahydrate 7791-18-6	= 8100 mg/kg (Rat) = 2800 mg/kg (Rat)	None Established	None Established
Sodium hydroxide 1310-73-2	None Established	= 1350 mg/kg (Rabbit)	None Established
EDTA disodium salt, dihydrate 6381-92-6	None Established	None Established	None Established
Water 7732-18-5	> 90 mL/kg (Rat)	None Established	None Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Tergitol No. 4 139-88-8	-	None Established	None Established	-
Diethylene glycol monoethyl ether 111-90-0	-	None Established	None Established	-
Magnesium chloride, hexahydrate 7791-18-6	-	None Established	None Established	-
Sodium hydroxide 1310-73-2	-	None Established	None Established	-
EDTA disodium salt, dihydrate 6381-92-6	-	None Established	None Established	-
Water 7732-18-5	-	None Established	None Established	-

Chronic toxicity None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Tergitol No. 4 139-88-8	None Established	None Established	None Established
Diethylene glycol monoethyl ether 111-90-0	None Established	11400 - 15700: 96 h Oncorhynchus mykiss mg/L LC50	3940 - 4670: 48 h Daphnia magna mg/L EC50

		flow-through 11600 - 16700: 96 h Pimephales promelas mg/L LC50 flow-through 19100 - 23900: 96 h Lepomis macrochirus mg/L LC50 flow-through 10000: 96 h Lepomis macrochirus mg/L LC50 static 13400: 96 h Salmo gairdneri mg/L LC50 flow-through	
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	None Established	45.4: 96 h Oncorhynchus mykiss mg/L LC50 static	None Established
EDTA disodium salt, dihydrate 6381-92-6	None Established	None Established	None Established
Water 7732-18-5	None Established	None Established	None Established

Persistence and degradability
No information available.

Bioaccumulation/Accumulation
No information available.

Chemical name	Log Pow
Tergitol No. 4 139-88-8	None Established
Diethylene glycol monoethyl ether 111-90-0	-0.8
Magnesium chloride, hexahydrate 7791-18-6	None Established
Sodium hydroxide 1310-73-2	None Established
EDTA disodium salt, dihydrate 6381-92-6	None Established
Water 7732-18-5	None Established

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with local regulations.

Contaminated packaging Do not re-use empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Tergitol No. 4 139-88-8	None Established	-	None Established	None Established
Diethylene glycol monoethyl ether 111-90-0	None Established	-	None Established	None Established
Magnesium chloride, hexahydrate 7791-18-6	None Established	-	None Established	None Established
Sodium hydroxide 1310-73-2	None Established	-	None Established	None Established
EDTA disodium salt, dihydrate 6381-92-6	None Established	-	None Established	None Established
Water 7732-18-5	None Established	-	None Established	None Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Tergitol No. 4	None Established	None Established	None Established	None Established

139-88-8				
Diethylene glycol monoethyl ether 111-90-0	None Established	None Established	None Established	None Established
Magnesium chloride, hexahydrate 7791-18-6	None Established	None Established	None Established	None Established
Sodium hydroxide 1310-73-2	None Established	None Established	None Established	None Established
EDTA disodium salt, dihydrate 6381-92-6	None Established	None Established	None Established	None Established
Water 7732-18-5	None Established	None Established	None Established	None Established

Chemical name	California Hazardous Waste Status
Tergitol No. 4 139-88-8	-
Diethylene glycol monoethyl ether 111-90-0	-
Magnesium chloride, hexahydrate 7791-18-6	-
Sodium hydroxide 1310-73-2	-
EDTA disodium salt, dihydrate 6381-92-6	-
Water 7732-18-5	-

14. TRANSPORT INFORMATION

DOT

15. REGULATORY INFORMATION

International Inventories

TSCA	Does not comply
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
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 Commercial Chemical Substances/EU 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

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or 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 %
Tergitol No. 4 139-88-8	None Established
Diethylene glycol monoethyl ether 111-90-0	1.0
Magnesium chloride, hexahydrate 7791-18-6	None Established
Sodium hydroxide 1310-73-2	None Established
EDTA disodium salt, dihydrate 6381-92-6	None Established
Water 7732-18-5	None 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

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
Tergitol No. 4 139-88-8	None Established	None Established	None Established	None Established
Diethylene glycol monoethyl ether 111-90-0	None Established	None Established	None Established	None Established
Magnesium chloride, hexahydrate 7791-18-6	None Established	None Established	None Established	None Established
Sodium hydroxide 1310-73-2	None Established	None Established	None Established	None Established
EDTA disodium salt, dihydrate 6381-92-6	None Established	None Established	None Established	None Established
Water 7732-18-5	None Established	None Established	None Established	None Established

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
Tergitol No. 4 139-88-8	-	None Established	-
Diethylene glycol monoethyl ether 111-90-0	-	None Established	-
Magnesium chloride, hexahydrate 7791-18-6	-	None Established	-
Sodium hydroxide 1310-73-2	1000 lb	None Established	RQ 1000 lb final RQ RQ 454 kg final RQ
EDTA disodium salt, dihydrate 6381-92-6	-	None Established	-
Water 7732-18-5	-	None Established	-

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical name	California Prop. 65
Tergitol No. 4 139-88-8	None Established
Diethylene glycol monoethyl ether 111-90-0	None Established
Magnesium chloride, hexahydrate 7791-18-6	None Established
Sodium hydroxide 1310-73-2	None Established
EDTA disodium salt, dihydrate 6381-92-6	None Established
Water 7732-18-5	None Established

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Tergitol No. 4 139-88-8	None Established	None Established	None Established
Diethylene glycol monoethyl ether 111-90-0	X	None Established	X
Magnesium chloride, hexahydrate 7791-18-6	None Established	None Established	None Established
Sodium hydroxide 1310-73-2	X	X	X
EDTA disodium salt, dihydrate 6381-92-6	None Established	None Established	None Established
Water 7732-18-5	None Established	None Established	X

16. OTHER INFORMATION

NFPA **Health hazard** 1 **Flammability** 0 **Instability** 0 **Physical and Chemical Hazards** -

Health hazard 1

Prepared by Regulatory Affairs Department
Issuing Date Aug-27-2012
Revision Date Mar-25-2015
Reason for revision Initial Release

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 MSDS

Safety Data Sheet

Issuing Date May-27-2015 **Revision Number** 0

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

Product identifier

Product name **Hardness Reagent 5 Solution**

Other means of identification

Product Code(s) **4483**
UN-No 3266

Recommended use of the chemical and restrictions on use

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

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
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 1B

EMERGENCY OVERVIEW

DANGER

Hazard statements
Causes severe skin burns and eye damage. May cause cancer.

Appearance Clear, colorless **Physical state** liquid **Odor** Sulfur Rotten-egg like

Precautionary Statements - Prevention
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling.

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/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/Take off immediately all contaminated clothing. Rinse skin with water/shower
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.

Other Hazards
Harmful to aquatic life

Unknown Acute Toxicity
1% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Sodium hydroxide	1310-73-2	1
Sodium sulfide	1313-84-4	1
Sodium tetraborate, decahydrate	1303-96-4	4

4. FIRST AID MEASURES

First Aid Measures

General advice Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Call a physician immediately.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Remove and isolate contaminated clothing and shoes. Wash contaminated clothing before reuse. Call a physician immediately.

Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

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

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

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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 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 Neutralize spills with acid such as acetic, hydrochloric or sulfuric, absorb with vermiculite or other inert substance, and package in a suitable container for disposal. Keep in suitable and closed containers for disposal. 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. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Separate from acids. Keep out of the reach of children.

Incompatible Products Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m³	TWA: 2 mg/m³	IDLH: 10 mg/m³ Ceiling: 2 mg/m³
Sodium sulfide 1313-84-4	-	-	Not Established
Sodium tetraborate, decahydrate 1303-96-4	6 mg/m³ STEL (inhalable fraction, listed under Borate compounds, inorganic) 6 mg/m³ STEL (inhalable fraction) TWA: 2 mg/m³	-	TWA: 5 mg/m³ TWA: 1 mg/m³

NIOSH IDLH: Immediately Dangerous to Life or Health

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves/clothing. Gloves & Lab Coat. Nitrile rubber.

Respiratory protection Handle in an enclosing hood with exhaust ventilation. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state liquid
Appearance Clear, colorless **Odor** Sulfur Rotten-egg like

Property	Values	Remarks • Method
pH	12	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	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Water solubility	No information available	
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 polymerization Hazardous polymerization does not occur.

Conditions to avoid Incompatible Products.
Incompatible materials Acids.
Hazardous decomposition products

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium hydroxide 1310-73-2	Not Established	= 1350 mg/kg (Rabbit)	Not Established
Sodium sulfide 1313-84-4	= 208 mg/kg (Rat)	< 340 mg/kg (Rabbit)	Not Established
Sodium tetraborate, decahydrate 1303-96-4	= 2660 mg/kg (Rat) = 3493 mg/kg (Rat)	> 10000 mg/kg (Rabbit) > 2000 mg/kg (Rabbit)	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Sodium hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Sodium sulfide 1313-84-4	Not Established	Not Established	Not Established	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established	Group 2A	Not Established	X

ATEmix (oral) 28541
ATEmix (dermal) 17600 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 1 % 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)
Sodium hydroxide 1310-73-2	Not Established	45.4: 96 h Oncorhynchus mykiss mg/L LC50 static	Not Established
Sodium sulfide 1313-84-4	Not Established	7.7 - 29.1: 96 h Poecilia reticulata mg/L LC50	2.1: 48 h Daphnia magna mg/L EC50
Sodium tetraborate, decahydrate 1303-96-4	2.6 - 21.8: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 158: 96 h Desmodesmus subspicatus mg/L EC50	340: 96 h Limanda limanda mg/L LC50	1085 - 1402: 48 h Daphnia magna mg/L LC50

Persistence and degradability
No information available.

Bioaccumulation/Accumulation
No information available.

Chemical name	Log Pow
Sodium hydroxide 1310-73-2	Not Established
Sodium sulfide 1313-84-4	-3.5 - 3.5
Sodium tetraborate, decahydrate 1303-96-4	Not Established

13. DISPOSAL CONSIDERATIONS

Disposal Methods Dispose according to federal, state, and local regulations.

Contaminated packaging Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Sodium hydroxide 1310-73-2	Not Established	-	Not Established	Not Established
Sodium sulfide 1313-84-4	Not Established	-	Not Established	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sodium hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Sodium sulfide 1313-84-4	Not Established	Not Established	Not Established	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established	Not Established	Not Established	Not Established

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical name	California Hazardous Waste Status
Sodium hydroxide 1310-73-2	-
Sodium sulfide 1313-84-4	-
Sodium tetraborate, decahydrate 1303-96-4	-

14. TRANSPORT INFORMATION

DOT

Proper shipping name CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (1% Sodium sulfide)
UN-No 3266
Hazard Class 8
Packing group III

IATA

Proper shipping name CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (1% Sodium sulfide)
UN-No 3266
Hazard Class 8
Packing group III

IMDG/IMO

Proper shipping name CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (1% Sodium sulfide)
UN-No 3266
Hazard Class 8
Packing group III

15. REGULATORY INFORMATION

International Inventories

TSCA Does not comply
DSL/NDSL Does not comply
EINECS/ELINCS Does not comply
ENCS Does not comply
IECSC Does not comply
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 %
Sodium hydroxide 1310-73-2	Not Established
Sodium sulfide 1313-84-4	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established

SARA 311/312 Hazard Categories

Acute health hazard	Yes
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
Sodium hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Sodium sulfide 1313-84-4	Not Established	Not Established	Not Established	Not Established
Sodium tetraborate, decahydrate 1303-96-4	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
Sodium hydroxide 1310-73-2	1000 lb	Not Established	RQ 1000 lb final RQ RQ 454 kg final RQ
Sodium sulfide 1313-84-4	-	Not Established	-
Sodium tetraborate, decahydrate 1303-96-4	-	Not Established	-

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical name	California Proposition 65
Sodium hydroxide 1310-73-2	Not Established
Sodium sulfide 1313-84-4	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania

Sodium hydroxide 1310-73-2	X	X	X
Sodium sulfide 1313-84-4	X	X	Not Established
Sodium tetraborate, decahydrate 1303-96-4	X	X	X

16. OTHER INFORMATION

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

HMIS **Health hazard** 2 **Stability** 1

Prepared by Regulatory Affairs Department
Issuing Date May-27-2015
Revision Date Jun-05-2015
Reason for revision MSDS was reviewed per Canada request - Canada requires MSDS to be dated within 3 years of the request

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

Safety Data Sheet

Issuing Date Jun-01-2015 **Revision Number** 0

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

Product identifier
Product name **HARDNESS REAGENT #6 TABLETS**

Other means of identification
Product Code(s) **4484**

Recommended use of the chemical and restrictions on use
Recommended Use Use as a laboratory reagent. Industrial (not for food or food contact use).

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

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

EMERGENCY OVERVIEW

Appearance purple **Physical state** Tablet **Odor** unpleasant Phenolic

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood. Keep container tightly closed. Keep out of reach of children.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water.
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED, Drink 1 or 2 glasses of water, Call a physician immediately

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool.

Other Hazards
May be harmful if swallowed Harmful to aquatic life with long lasting effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Potassium chloride	7447-40-7	99

4. FIRST AID MEASURES

First Aid Measures

General advice Show this safety data sheet to the doctor in attendance. Do not get in eyes, on skin, or on clothing.

Eye contact Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. If symptoms persist, call a physician.

Skin contact Wash off with warm water and soap. If symptoms persist, call a physician.

Inhalation Not expected to require first aid measures. Remove to fresh air.

Ingestion Drink plenty of water. Clean mouth with water. If gastrointestinal distress occurs contact physician. Consult a physician if necessary.

Self-protection of the first aider Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protection recommended in Section 8.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Water spray, dry chemical, carbon dioxide (CO_2), or foam.

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 See section 8. Avoid contact with the skin and the eyes. Avoid dust formation.

Environmental precautions No special environmental precautions required. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Sweep up in a manner that does not dispurse dust and shovel into suitable containers for disposal. Dispose according to local regulations, if permitted dissolve in water and rinse to drain.

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. Prevent contact with

skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

Incompatible Products Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium chloride 7447-40-7	-	-	Not Established

Appropriate engineering controls

Engineering Measures Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear latex or nitrile gloves.

Respiratory protection None required under normal usage.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Wash hands and face before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Tablet
Appearance purple **Odor** unpleasant Phenolic

Property	Values	Remarks • Method
pH	6	(1 tablet in 10mL of water)
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	No information available	
Vapor density	No information available	
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 normal conditions of use and storage.
Hazardous polymerization Hazardous polymerization does not occur.

Conditions to avoid Exposure to air or moisture over prolonged periods. Excessive heat.
Incompatible materials Strong oxidizing agents.
Hazardous decomposition products Oxides of Chlorine. Potassium Oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation Not an expected route of exposure.
Eye contact May cause irritation.
Skin contact May cause irritation.
Ingestion May be harmful if swallowed.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium chloride 7447-40-7	= 2600 mg/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Potassium chloride 7447-40-7	Not Established	Not Established	Not Established	Not Established

Chronic toxicity None known.

ATEmix (oral) 2637

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 1.4 % 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)
Potassium chloride 7447-40-7	2500: 72 h Desmodesmus subspicatus mg/L EC50	750 - 1020: 96 h Pimephales promelas mg/L LC50 static 1060: 96 h Lepomis macrochirus mg/L LC50 static	825: 48 h Daphnia magna mg/L EC50 83: 48 h Daphnia magna mg/L EC50 Static

Persistence and degradability
No information available.

Bioaccumulation/Accumulation
No information available.

Chemical name	Log Pow
Potassium chloride 7447-40-7	Not Established

13. DISPOSAL CONSIDERATIONS

Disposal Methods Dispose according to federal, state, and local regulations. If permitted, dissolve in large volume of water and rinse to drain with excess water.

Contaminated packaging Dispose of waste product or used containers according to local regulations.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Potassium chloride 7447-40-7	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Potassium chloride 7447-40-7	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Potassium chloride 7447-40-7	-

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

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

Potassium chloride 7447-40-7	Not Established

SARA 311/312 Hazard Categories

Acute health hazard	Yes
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
Potassium chloride 7447-40-7	Not Established	Not Established	Not Established	Not Established

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
Potassium chloride 7447-40-7	-	Not Established	-

US State Regulations

California Proposition 65

Chemical name	California Proposition 65
Potassium chloride 7447-40-7	Not Established

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Potassium chloride 7447-40-7	Not Established	Not Established	Not Established

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

16. OTHER INFORMATION

NFPA **Health hazard** 1 **Flammability** 0 **Instability** 0 **Physical and Chemical Hazards** N/A

HMIS **Health hazard** 1 **Flammability** 0 **Stability** 0

Prepared by Regulatory Affairs Department
Issuing Date Jun-01-2015
Revision Date Jul-23-2015

Reason for revision New US GHS format

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

Safety Data Sheet

Issuing Date Jun-01-2015 **Revision Number** 0

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

Product identifier
Product name **CALCIUM HARDNESS INDICATOR TABLETS**

Other means of identification
Product Code(s) **T-5250**

Recommended use of the chemical and restrictions on use
Recommended Use Use as a laboratory reagent. Industrial (not for food or food contact use).

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

OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

EMERGENCY OVERVIEW

Appearance purple **Physical state** powder **Odor** Odorless

Precautionary Statements - Prevention
Do not handle until all safety precautions have been read and understood. Keep container tightly closed. Keep out of reach of children.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED, Drink 1 or 2 glasses of water, Call a physician immediately

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool.

Other Hazards
Harmful to aquatic life with long lasting effects

Unknown Acute Toxicity

4.3% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Excipients not listed by name are non-hazardous and proprietary to the manufacturer

4. FIRST AID MEASURES

First Aid Measures

General advice Do not get in eyes, on skin, or on clothing.

Eye contact Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. If symptoms persist, call a physician.

Skin contact Wash skin with soap and water. Take off contaminated clothing and wash before reuse. Consult a physician if necessary.

Inhalation Remove to fresh air. Not expected to require first aid measures.

Ingestion Drink plenty of water. Clean mouth with water. Consult a physician if necessary.

Self-protection of the first aider Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protection recommended in Section 8.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Water spray, dry chemical, carbon dioxide (CO_2), or foam.

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 See section 8. Avoid contact with the skin and the eyes.

Environmental precautions No special environmental precautions required. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Sweep up in a manner that does not dispurse dust and shovel into suitable containers for disposal. Dispose according to federal, state, and local regulations.

Methods for cleaning up Following product recovery, flush area with water.

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Keep out of the reach of children.

Incompatible Products Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Appropriate engineering controls

Engineering Measures None under normal use conditions.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear latex or nitrile gloves.

Respiratory protection None required under normal usage.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Wash hands and face before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state powder
Appearance purple **Odor** Odorless

Property	Values	Remarks • Method
pH		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	No information available	
Vapor density	No information available	
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.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Exposure to air or moisture over prolonged periods. Temperature extremes.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Oxides of Chlorine. Potassium Oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation	Not an expected route of exposure.
Eye contact	May cause irritation.
Skin contact	May cause irritation.
Ingestion	May be harmful if swallowed.

Component Information

Information on toxicological effects

Chronic toxicity None known.

ATEmix (oral)	3311

12. ECOLOGICAL INFORMATION

Ecotoxicity

Persistence and degradability
Inherently biodegradable, fulfilling criteria.

Bioaccumulation/Accumulation
No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods	Dispose of waste product or used containers according to local regulations. Dispose according to federal, state, and local regulations. If permitted, dissolve in large volume of water and rinse to drain with excess water.
Contaminated packaging	Dispose of waste product or used containers according to local regulations.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

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

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

SARA 311/312 Hazard Categories

Acute health hazard	Yes
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)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

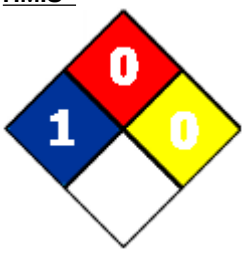
California Proposition 65

U.S. State Right-to-Know Regulations

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

16. OTHER INFORMATION

NFPA	**Health hazard** 1	**Flammability** 0	**Instability** 0	**Physical and Chemical Hazards** N/A
HMIS	**Health hazard** 1	**Flammability** 0	**Stability** 0	



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by Regulatory Affairs Department
Issuing Date Jun-01-2015
Revision Date Aug-14-2015
Reason for revision New US GHS format

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

Safety Data Sheet

Issuing Date May-05-2015 **Revision Number** 0

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

Product identifier

Product name **Sodium Hydroxide Reagent with Metal Inhibitor**

Other means of identification

Product Code(s) **4259**

UN-No 1824

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals. 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.

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 CO_2. DO NOT USE WATER.

Specific hazards arising from the chemical
React vigorously and/or explosively with water.

Hazardous combustion products
Contact with metals may evolve flammable hydrogen gas.

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. Combustible materials. Cyanides. Sulfides. Formaldehyde.

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:. 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.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

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		
Appearance	Clear, colorless	**Odor**	Odorless

Property	**Values**	**Remarks • Method**
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	.	<17 mmHg @ 20°C
Vapor density	>1	(air=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. Moisture. Incompatible Products.
Incompatible materials	Water. Strong bases. Metals. Combustible materials. Cyanides. Sulfides. Formaldehyde.
Hazardous decomposition products	Hydrogen gas. Sulfur oxides (SOx).

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 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	Group 3	Not Established	Not Established

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Chronic toxicity Chronic exposure to corrosive mists or vapors may cause erosion of the teeth. Chronic exposure to mists containing sulfuric acid is a cancer hazard.

Numerical measures of toxicity - Product Information

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, 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

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 SODIUM HYDROXIDE SOLUTION
UN-No 1824
Hazard Class 8
Packing group II
Reportable Quantity (RQ) 1000

IATA

Proper shipping name SODIUM HYDROXIDE SOLUTION
UN-No 1824
Hazard Class 8
Packing group II

IMDG/IMO

Proper shipping name SODIUM HYDROXIDE SOLUTION
UN-No 1824
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	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	Yes

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

This product does not contain any Proposition 65 chemicals

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

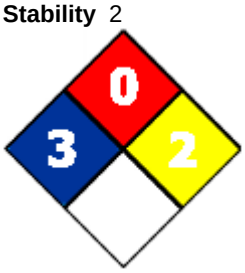
CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

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** W

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