

**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**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.

**Precautionary Statements - Response**

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

<b>General advice</b>	Do not get in eyes, on skin, or on clothing.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash skin with soap and water. Take off contaminated clothing and wash before reuse. Consult a physician if necessary.
<b>Inhalation</b>	Remove to fresh air. Not expected to require first aid measures.
<b>Ingestion</b>	Drink plenty of water. Clean mouth with water. Consult a physician if necessary.
<b><u>Self-protection of the first aider</u></b>	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. FIREFIGHTING MEASURES

#### Suitable extinguishing media

Water spray, dry chemical, carbon dioxide (CO<sub>2</sub>), 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

<b>Personal precautions</b>	See section 8. Avoid contact with the skin and the eyes.
<b>Environmental precautions</b>	No special environmental precautions required. See Section 12 for additional Ecological Information.

#### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Sweep up in a manner that does not disperse dust and shovel into suitable containers for disposal. Dispose according to federal, state, and local regulations.
<b>Methods for cleaning up</b>	Following product recovery, flush area with water.

### 7. HANDLING AND STORAGE

#### Precautions for safe handling

<b>Handling</b>	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.
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#### 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

<b>Physical state</b>	powder		
<b>Appearance</b>	purple	<b>Odor</b>	Odorless

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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pH		
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
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 identification

### Information on toxicological effects

**Chronic toxicity** None known.  
**ATEmix (oral)** 3,311.00 mg/kg

## 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**

<b>TSCA</b>	Does not comply
<b>DSL/NDL</b>	Does not comply
<b>EINECS/ELINCS</b>	Does not comply
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Does not comply
<b>KECL</b>	Does not comply
<b>PICCS</b>	Does not comply
<b>AICS</b>	Does not comply

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDL** - 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**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	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**

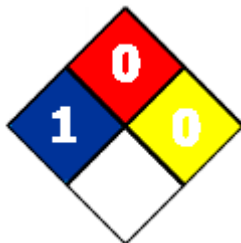
**California Proposition 65**

**U.S. State Right-to-Know Regulations**

**CPSC (Consumer Product Safety Commission) - Specially Regulated Substances**

**16. OTHER INFORMATION**

<b><u>NFPA</u></b>	<b>Health hazard 1</b>	<b>Flammability 0</b>	<b>Instability 0</b>	<b>Physical and Chemical Hazards N/A</b>
	<b>Health hazard 1</b>	<b>Flammability 0</b>	<b>Stability 0</b>	



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by  
Issuing Date  
Disclaimer

Regulatory Affairs Department  
Jun-01-2015

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 Safety Data Sheet**

**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**LaMotte Company, Inc.  
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**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.

**Precautionary Statements - Response**

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

<b>General advice</b>	Do not get in eyes, on skin, or on clothing.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash skin with soap and water. Take off contaminated clothing and wash before reuse. Consult a physician if necessary.
<b>Inhalation</b>	Remove to fresh air. Not expected to require first aid measures.
<b>Ingestion</b>	Drink plenty of water. Clean mouth with water. Consult a physician if necessary.
<b><u>Self-protection of the first aider</u></b>	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. FIREFIGHTING MEASURES

#### Suitable extinguishing media

Water spray, dry chemical, carbon dioxide (CO<sub>2</sub>), 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

<b>Personal precautions</b>	See section 8. Avoid contact with the skin and the eyes.
<b>Environmental precautions</b>	No special environmental precautions required. See Section 12 for additional Ecological Information.

#### Methods and material for containment and cleaning up

<b>Methods for containment</b>	Sweep up in a manner that does not disperse dust and shovel into suitable containers for disposal. Dispose according to federal, state, and local regulations.
<b>Methods for cleaning up</b>	Following product recovery, flush area with water.

### 7. HANDLING AND STORAGE

#### Precautions for safe handling

<b>Handling</b>	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.
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#### Conditions for safe storage, including any incompatibilities



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

<b>Physical state</b>	powder	<b>Odor</b>	Odorless
<b>Appearance</b>	purple		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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pH		
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
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

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Density</b>	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 identification

### Information on toxicological effects

**Chronic toxicity** None known.  
**ATEmix (oral)** 3,311.00 mg/kg

## 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**

<b>TSCA</b>	Does not comply
<b>DSL/NDL</b>	Does not comply
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**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
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**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**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	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**

<b><u>NFPA</u></b>	<b>Health hazard 1</b>	<b>Flammability 0</b>	<b>Instability 0</b>	<b>Physical and Chemical Hazards N/A</b>
	<b>Health hazard 1</b>	<b>Flammability 0</b>	<b>Stability 0</b>	



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by  
Issuing Date  
Disclaimer

Regulatory Affairs Department  
Jun-01-2015

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 Safety Data Sheet**



Issuing Date Oct-07-2011

Revision Date Oct-14-2014

Revision Number 0.01

1. PRODUCT AND COMPANY IDENTIFICATION

**Product name** HARDNESS REAGENT #5

**Product Code(s)** 4483

**Synonyms** none

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

**Company** LaMotte Company, Inc.  
802 Washington Avenue  
P.O. Box 329  
Chestertown, MD 21620  
USA

**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

**WARNING**

**EMERGENCY OVERVIEW**  
Harmful if swallowed or if inhaled  
Vapor and liquid cause irritation to eyes, skin, and respiratory system  
Ingestion may cause gastrointestinal irritation, nausea, vomiting, and diarrhea

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

**OSHA Regulatory Status** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

**Potential health effects**

**Principle Routes of Exposure** Inhalation, skin contact, and ingestion, Inhalation, Skin Contact, Eye Contact.

**Acute toxicity**

**Eyes** Irritating to eyes. May cause burns. May cause redness, itching, and pain.

**Skin** Causes irritation. Symptoms can include redness, itching, and pain. Prolonged skin contact may cause burns.

**Inhalation** Irritating to the respiratory system; may cause symptoms that include coughing and shortness of breath. May cause additional affects as listed under "Ingestion". May be harmful if inhaled.

**Ingestion** Harmful if swallowed. Causes irritation or burns to the digestive and respiratory tract. May cause abdominal pain, diarrhea, vomiting.

**Chronic effects**

**Aggravated Medical Conditions** Preexisting eye disorders. Hypersensitivity may occur in those with preexisting skin disorders. Respiratory disorders.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Tartrate, potassium sodium	6381-59-5	1
Sodium sulfide, nonahydrate	1313-84-4	1
Sodium hydroxide	1310-73-2	1-2
Sodium tetraborate, decahydrate	1303-96-4	4
Water, distilled	7732-18-5	to 100%

### 4. FIRST AID MEASURES

<b>General advice</b>	Do not get in eyes, on skin, or on clothing. Show this safety data sheet to the doctor in attendance. If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
<b>Skin contact</b>	Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air. Consult a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.
<b>Ingestion</b>	Do NOT induce vomiting. Drink plenty of water. Rinse mouth. If symptoms persist or develop contact physician.
<b>Protection of First-aiders</b>	Use personal protective equipment.

### 5. FIRE-FIGHTING MEASURES

<b>Flammable properties</b>	Not a fire hazard.
<b>Flash point</b>	Not Applicable
<b>Suitable extinguishing media</b>	Water spray, dry chemical, carbon dioxide (CO <sub>2</sub> ), or foam.

<b><u>NFPA</u></b>	<b>Health hazard</b> 2	<b>Flammability</b> 0	<b>Stability</b> 0	<b>Physical and Chemical Hazards</b> -
<b><u>HMIS</u></b>	<b>Health hazard</b> 2	<b>Flammability</b> 0	<b>Stability</b> 1	

### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Ensure adequate ventilation. Avoid contact with skin, eyes, and clothing. Refer to Section 8. Wear protective gloves/clothing and eye/face protection.
<b>Methods for containment</b>	Soak up with inert absorbent material, containerize, and hold for disposal. Dispose according to federal, state, and local regulations.
<b>Methods for cleaning up</b>	Clean contaminated surface thoroughly. Following product recovery, flush area with water.

### 7. HANDLING AND STORAGE

<b>Handling</b>	Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not eat, drink, or smoke when using this product. Refer to Section 8.
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**Storage**

Keep container tightly closed in a dry and well-ventilated place. Protect from light. Keep away from heat and incompatibles. Keep out of the reach of children.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical name	CAS-No	ACGIH TLV	OSHA PEL	NIOSH IDLH
Tartrate, potassium sodium	6381-59-5	None known	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	None known	None known	None known
Sodium hydroxide	1310-73-2	Ceiling: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>
Sodium tetraborate, decahydrate	1303-96-4	6 mg/m <sup>3</sup> STEL (inhalable fraction, listed under Borate compounds, inorganic) 6 mg/m <sup>3</sup> STEL (inhalable fraction) TWA: 2 mg/m <sup>3</sup>	None known	TWA: 5 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Water, distilled	7732-18-5	None known	None known	None known

NIOSH IDLH: *Immediately Dangerous to Life or Health*

**Personal protective equipment****Eye/face Protection**

Safety glasses with side-shields.

**Skin and body protection**

Wear protective gloves/clothing. Gloves & Lab Coat. Nitrile rubber.

**Respiratory protection**

Use mechanical ventilation (fume hood). When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Clear, colorless	<b>Odor</b>	Sulfur, Rotten-egg like
<b>Physical state</b>	liquid	<b>pH</b>	12-13
<b>Flash point</b>	Not Applicable	<b>Autoignition temperature</b>	Not Applicable
<b>Flammability Limits in Air</b>		Not Applicable	
<b>Vapor pressure</b>	<17 mmHg @ 20°C	<b>Vapor density</b>	<1(Air = 1)

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable.
<b>Incompatible Products</b>	Strong acids. Metals.
<b>Conditions to avoid</b>	None known.
<b>Hazardous decomposition products</b>	Hydrogen sulfide.
<b>Hazardous Reactions</b>	Contact with acids liberates very toxic gas. Contact with metals may evolve flammable hydrogen gas.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**

Chemical name	CAS-No	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tartrate, potassium sodium	6381-59-5	None known	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	= 208 mg/kg ( Rat )	< 340 mg/kg ( Rabbit )	None known
Sodium hydroxide	1310-73-2	None known	= 1350 mg/kg ( Rabbit )	None known
Sodium tetraborate, decahydrate	1303-96-4	= 2660 mg/kg ( Rat ) = 3493 mg/kg ( Rat )	> 10000 mg/kg ( Rabbit ) > 2000 mg/kg ( Rabbit )	None known
Water, distilled	7732-18-5	> 90 mL/kg ( Rat )	None known	None known

**Carcinogenicity**

Chemical name	CAS-No	ACGIH	IARC	NTP	OSHA
Tartrate, potassium sodium	6381-59-5	None known	None known	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	None known	None known	None known	None known
Sodium hydroxide	1310-73-2	None known	None known	None known	None known
Sodium tetraborate, decahydrate	1303-96-4	None known	Group 2A	None known	X
Water, distilled	7732-18-5	None known	None known	None known	None known

Chemical name	CAS-No	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Tartrate, potassium sodium	6381-59-5	None known	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	None known	None known	None known
Sodium hydroxide	1310-73-2	None known	None known	None known
Sodium tetraborate, decahydrate	1303-96-4	None known	None known	None known
Water, distilled	7732-18-5	None known	None known	None known

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Chemical name	CAS-No	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Tartrate, potassium sodium	6381-59-5	None known	None known	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	None known	7.7 - 29.1: 96 h <i>Poecilia reticulata</i> mg/L LC50	None known	2.1: 48 h <i>Daphnia magna</i> mg/L EC50
Sodium hydroxide	1310-73-2	None known	45.4: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	None known	None known
Sodium tetraborate, decahydrate	1303-96-4	2.6 - 21.8: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static 158: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50	340: 96 h <i>Limanda limanda</i> mg/L LC50	None known	1085 - 1402: 48 h <i>Daphnia magna</i> mg/L LC50
Water, distilled	7732-18-5	None known	None known	None known	None known

Chemical name	CAS-No	Log Pow
Tartrate, potassium sodium	6381-59-5	None known
Sodium sulfide, nonahydrate	1313-84-4	-3.5 - 3.5
Sodium hydroxide	1310-73-2	None known
Sodium tetraborate, decahydrate	1303-96-4	None known
Water, distilled	7732-18-5	None known

**13. DISPOSAL CONSIDERATIONS****Waste Disposal Method**

Dispose according to federal, state, and local regulations.

Chemical name	CAS-No	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Tartrate, potassium sodium	6381-59-5	None known	None known	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	None known	None known	None known	None known
Sodium hydroxide	1310-73-2	None known	None known	None known	None known
Sodium tetraborate, decahydrate	1303-96-4	None known	None known	None known	None known
Water, distilled	7732-18-5	None known	None known	None known	None known

Chemical name	California Hazardous Waste Status
Tartrate, potassium sodium 6381-59-5	-



Sodium sulfide, nonahydrate 1313-84-4	-
Sodium hydroxide 1310-73-2	-
Sodium tetraborate, decahydrate 1303-96-4	-
Water, distilled 7732-18-5	-

## 14. TRANSPORT INFORMATION

**DOT**

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

**IATA**

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

**IMDG/IMO**

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

## 15. REGULATORY INFORMATION

**International Inventories**

Chemical name	CAS-No	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Tartrate, potassium sodium	6381-59-5	TSCA	DSL	EINECS/ELINCS	ENCS	X	KECL	X	X
Sodium sulfide, nonahydrate	1313-84-4	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	X	X
Sodium hydroxide	1310-73-2	Present	X	X	Present	X	KE-31487	X	X
Sodium tetraborate, decahydrate	1303-96-4	Present	X	EINECS/ELINCS	Present	X	KE-03483	X	X
Water, distilled	7732-18-5	Present	X	X	ENCS	X	KE-35400	X	X

**U.S. 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	CAS-No	Weight %	SARA 313 - Threshold Values %
Tartrate, potassium sodium	6381-59-5	1	None known
Sodium sulfide, nonahydrate	1313-84-4	1	None known
Sodium hydroxide	1310-73-2	1-2	None known
Sodium tetraborate, decahydrate	1303-96-4	4	None known
Water, distilled	7732-18-5	to 100%	None known

**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

**Clean Water Act**

Chemical name	CAS-No	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Tartrate, potassium sodium	6381-59-5	None known	None known	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	None known	None known	None known	None known
Sodium hydroxide	1310-73-2	None known	None known	None known	None known
Sodium tetraborate, decahydrate	1303-96-4	None known	None known	None known	None known
Water, distilled	7732-18-5	None known	None known	None known	None known

**Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

Chemical name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Tartrate, potassium sodium	6381-59-5	1	None known	None known	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	1	None known	None known	None known	None known
Sodium hydroxide	1310-73-2	1-2	None known	None known	None known	None known
Sodium tetraborate, decahydrate	1303-96-4	4	None known	None known	None known	None known
Water, distilled	7732-18-5	to 100%	None known	None known	None known	None known

**CERCLA**

Chemical name	CAS-No	Hazardous Substances RQs	CERCLA/SARA RQ
Tartrate, potassium sodium	6381-59-5	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	None known	None known
Sodium hydroxide	1310-73-2	1000 lb	None known
Sodium tetraborate, decahydrate	1303-96-4	None known	None known
Water, distilled	7732-18-5	None known	None known

**U.S. State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals

Chemical name	CAS-No	California Prop. 65
Tartrate, potassium sodium	6381-59-5	None known
Sodium sulfide, nonahydrate	1313-84-4	None known
Sodium hydroxide	1310-73-2	None known
Sodium tetraborate, decahydrate	1303-96-4	None known
Water, distilled	7732-18-5	None known

**U.S. State Right-to-Know Regulations**

Chemical name	CAS-No	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Tartrate, potassium sodium	6381-59-5	None known	None known	None known	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	X	X	None known	None known	None known
Sodium hydroxide	1310-73-2	X	X	X	None known	X
Sodium tetraborate, decahydrate	1303-96-4	X	X	X	None known	X
Water, distilled	7732-18-5	None known	None known	X	None known	None known

**International Regulations****Mexico - Grade**

Chemical name	CAS-No	Carcinogen Status	Exposure Limits
Tartrate, potassium sodium	6381-59-5	None known	None known
Sodium sulfide, nonahydrate	1313-84-4	None known	None known

Sodium hydroxide	1310-73-2	None known	None known
Sodium tetraborate, decahydrate	1303-96-4	None known	Mexico: TWA 5 mg/m <sup>3</sup> Mexico: TWA 1 mg/m <sup>3</sup>
Water, distilled	7732-18-5	None known	None known

**Canada**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

Component	CAS-No	WHMIS Hazard Class
Tartrate, potassium sodium 6381-59-5 ( 1 )	6381-59-5	Uncontrolled product according to WHMIS classification criteria
Sodium sulfide, nonahydrate 1313-84-4 ( 1 )	1313-84-4	Not Determined
Sodium hydroxide 1310-73-2 ( 1-2 )	1310-73-2	1 % E
Sodium tetraborate, decahydrate 1303-96-4 ( 4 )	1303-96-4	1 % D2B
Water, distilled 7732-18-5 ( to 100% )	7732-18-5	Uncontrolled product according to WHMIS classification criteria



Chemical name	CAS-No	NPRI
Tartrate, potassium sodium	6381-59-5	
Sodium sulfide, nonahydrate	1313-84-4	
Sodium hydroxide	1310-73-2	
Sodium tetraborate, decahydrate	1303-96-4	
Water, distilled	7732-18-5	

**16. OTHER INFORMATION**

NFWA	HMIS	PPE	Transport Symbol						
	<table border="1" style="font-size: small;"> <tr> <td style="background-color: #0000FF; color: white;">Health Hazard</td> <td style="text-align: center; font-weight: bold;">2</td> </tr> <tr> <td style="background-color: #FF0000; color: white;">Fire Hazard</td> <td style="text-align: center; font-weight: bold;">0</td> </tr> <tr> <td style="background-color: #FFFF00; color: black;">Reactivity</td> <td style="text-align: center; font-weight: bold;">1</td> </tr> </table>	Health Hazard	2	Fire Hazard	0	Reactivity	1		
Health Hazard	2								
Fire Hazard	0								
Reactivity	1								

<p><b>Prepared by</b> <b>Issuing Date</b> <b>Revision Date</b> <b>Revision note</b></p>	<p>Regulatory Affairs Department Oct-07-2011 Oct-14-2014 MSDS was reviewed per Canada request - Canada requires MSDS to be dated within 3 years of the request.</p>
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**Disclaimer**

The information provided on this MSDS 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**

**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**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.

**Precautionary Statements - Response**

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

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Do not get in eyes, on skin, or on clothing.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Wash off with warm water and soap. If symptoms persist, call a physician.
<b>Inhalation</b>	Not expected to require first aid measures. Remove to fresh air.
<b>Ingestion</b>	Drink plenty of water. Clean mouth with water. If gastrointestinal distress occurs contact physician. Consult a physician if necessary.
<b><u>Self-protection of the first aider</u></b>	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. FIREFIGHTING MEASURES

##### **Suitable extinguishing media**

Water spray, dry chemical, carbon dioxide (CO<sub>2</sub>), 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**

<b>Personal precautions</b>	See section 8. Avoid contact with the skin and the eyes. Avoid dust formation.
<b>Environmental precautions</b>	No special environmental precautions required. See Section 12 for additional Ecological Information.

##### **Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Sweep up in a manner that does not disperse dust and shovel into suitable containers for disposal. Dispose according to local regulations, if permitted dissolve in water and rinse to drain.
<b>Methods for cleaning up</b>	After cleaning, flush away traces with water.

#### 7. HANDLING AND STORAGE

##### **Precautions for safe handling**

<b>Handling</b>	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.
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**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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	6	(1 tablet in 10mL of water)
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
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

<b>Stability</b>	Stable under normal conditions of use and storage.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Exposure to air or moisture over prolonged periods. Excessive heat.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Oxides of Chlorine. Potassium Oxides.

### 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

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

#### Component identification

Chemical name	ATEmix (oral)	ATEmix (dermal)	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)** 2,637.00 mg/kg

### 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

**Unknown Aquatic Toxicity** 1.4 % of the mixture consists of component(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**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Does not comply
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	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**

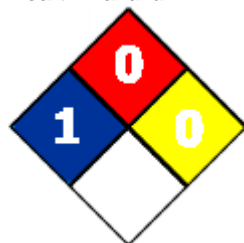
Chemical name	California Proposition 65
Potassium chloride 7447-40-7	Not Established

**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**

<b>NFPA</b>	Health hazard 1	Flammability 0	Instability 0	Physical and Chemical Hazards N/A
	Health hazard 1	Flammability 0	Stability 0	



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by  
Issuing Date  
Disclaimer

Regulatory Affairs Department  
Jun-01-2015

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 Safety Data Sheet**



**3. COMPOSITION/INFORMATION ON INGREDIENTS\*****4. FIRST AID MEASURES****First Aid Measures**

<b>General advice</b>	Do not get in eyes, on skin, or on clothing.
<b>Eye contact</b>	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.
<b>Skin contact</b>	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.
<b>Inhalation</b>	Remove to fresh air. If breathing is difficult, give oxygen. Consult a physician.
<b>Ingestion</b>	Drink plenty of water. If gastrointestinal distress occurs contact physician. Never give anything by mouth to an unconscious person.
<b><u>Self-protection of the first aider</u></b>	Use personal protective equipment. See section 8 for more information. 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.

**5. FIREFIGHTING MEASURES****Suitable extinguishing media**

Dry chemical, CO<sub>2</sub>, 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**

<b>Personal precautions</b>	Ensure adequate ventilation. Avoid contact with skin, eyes, and inhalation of vapors. Use personal protective equipment. See section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

<b>Methods for containment</b>	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.
<b>Methods for cleaning up</b>	After cleaning, flush away traces with water.

**7. HANDLING AND STORAGE****Precautions for safe handling**

<b>Handling</b>	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.
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**Conditions for safe storage, including any incompatibilities**

<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.
<b>Incompatible Products</b>	Strong oxidizing agents. copper. Aluminium.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters****Appropriate engineering controls**

<b>Engineering Measures</b>	Showers Eyewash stations Ventilation systems.
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**Individual protection measures, such as personal protective equipment**

<b>Eye/Face Protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin and body protection</b>	Wear protective gloves/clothing.
<b>Respiratory protection</b>	No special protective equipment required under normal use conditions.
<b>Hygiene Measures</b>	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**

<b>Physical state</b>	liquid	<b>Odor</b>	Odorless
<b>Appearance</b>	Clear, colorless		

<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>
<b>pH</b>		
<b>Melting point / freezing point</b>	No information available	
<b>Boiling point / boiling range</b>	No information available	
<b>Flash point</b>	Not Applicable	
<b>Evaporation rate</b>		
<b>Flammability (solid, gas)</b>	No information available	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit:</b>	No information available	
<b>Lower flammability limit:</b>	No information available	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Specific gravity</b>	No information available	
<b>Water solubility</b>	No information available	
<b>Solubility in other solvents</b>	No information available	
<b>Partition coefficient</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	No information available	
<b>Explosive properties</b>	No information available	
<b>Oxidizing properties</b>	No information available	

**Other Information**

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Density</b>	No information available
<b>Bulk density</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions of use and storage.
<b>Hazardous Reactions</b>	Contact with metals may evolve flammable hydrogen gas.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Temperature extremes.
<b>Incompatible materials</b>	Strong oxidizing agents. copper. Aluminium.
<b>Hazardous decomposition products</b>	Carbon oxides (COx). Nitrogen oxides (NOx).

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Component identification

### Information on toxicological effects

**Chronic toxicity** None known.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Unknown Aquatic Toxicity** 1.006 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

### Persistence and degradability

No information available.

### Bioaccumulation/Accumulation

No information available.

## 13. DISPOSAL CONSIDERATIONS

<b>Disposal Methods</b>	Dispose of waste product or used containers according to local regulations.
<b>Contaminated packaging</b>	Do not reuse empty containers.

## 14. TRANSPORT INFORMATION

<b><u>DOT</u></b>	Not regulated
<b><u>IATA</u></b>	Not regulated
<b><u>IMDG/IMO</u></b>	Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Does not comply
ENCS	Complies
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 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 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

#### 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)

#### 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

This product does not contain any Proposition 65 chemicals

#### U.S. State Right-to-Know Regulations

#### CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

## 16. OTHER INFORMATION

<u>NFPA</u>	Health hazard 1	Flammability 0	Instability 0	Physical and Chemical Hazards -
	Health hazard 1			



Health Hazard	1
Fire Hazard	0
Reactivity	0

**Prepared by**

**Issuing Date**

**Reason for revision**

**Disclaimer**

Regulatory Affairs Department

Jun-01-2015

Initial Release

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 Safety Data Sheet**



## 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

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

### EMERGENCY OVERVIEW

#### DANGER

#### Hazard statements

Causes severe skin burns and eye damage.



**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

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.

**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
Potassium sodium tartrate	6381-59-5	1
Sodium sulfide	1313-84-4	1
Sodium tetraborate, decahydrate	1303-96-4	4
Water	7732-18-5	to 100%

### 4. FIRST AID MEASURES

**First Aid Measures**

<b>General advice</b>	Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
<b>Skin contact</b>	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.
<b>Inhalation</b>	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
<b>Ingestion</b>	Do NOT induce vomiting. Drink plenty of water. Call a physician immediately. Never give anything by mouth to an unconscious person.
<b><u>Self-protection of the first aider</u></b>	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. FIREFIGHTING 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**

<b>Chemical name</b>	<b>ACGIH TLV</b>	<b>OSHA PEL</b>	<b>NIOSH IDLH</b>
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> (vacated) Ceiling: 2 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ceiling: 2 mg/m <sup>3</sup>
Potassium sodium tartrate 6381-59-5	-	-	Not Established
Sodium sulfide 1313-84-4	-	-	Not Established
Sodium tetraborate, decahydrate 1303-96-4	STEL: 6 mg/m <sup>3</sup> inhalable fraction TWA: 2 mg/m <sup>3</sup> inhalable fraction	(vacated) TWA: 10 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Water 7732-18-5	-	-	Not Established

*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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	12	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
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 identification

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Sodium hydroxide 1310-73-2	Not Established	= 1350 mg/kg ( Rabbit )	Not Established
Potassium sodium tartrate 6381-59-5	Not Established	Not Established	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
Water 7732-18-5	> 90 mL/kg ( Rat )	Not Established	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
Potassium sodium tartrate 6381-59-5	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
Water 7732-18-5	Not Established	Not Established	Not Established	Not Established

**ATEmix (oral)** 28,541.00 mg/kg  
**ATEmix (dermal)** 17,600.00 mg/kg

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

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
Potassium sodium tartrate 6381-59-5	Not Established	Not Established	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
Water 7732-18-5	Not Established	Not Established	Not Established

**Persistence and degradability**

No information available.

**Bioaccumulation/Accumulation**

No information available.

Chemical name	Log Pow
Sodium hydroxide 1310-73-2	Not Established
Potassium sodium tartrate 6381-59-5	Not Established
Sodium sulfide 1313-84-4	-3.5 - 3.5
Sodium tetraborate, decahydrate 1303-96-4	Not Established
Water 7732-18-5	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
Potassium sodium tartrate 6381-59-5	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
Water 7732-18-5	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
Potassium sodium tartrate 6381-59-5	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
Water 7732-18-5	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	Toxic Corrosive
Potassium sodium tartrate 6381-59-5	-
Sodium sulfide 1313-84-4	-
Sodium tetraborate, decahydrate 1303-96-4	Toxic
Water 7732-18-5	-

**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

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

**IATA**

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

**IMDG/IMO**

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

**15. REGULATORY INFORMATION****International Inventories**

TSCA	Complies
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
Potassium sodium tartrate 6381-59-5	Not Established
Sodium sulfide 1313-84-4	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established
Water 7732-18-5	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	1000 lb	Not Established	Not Established	X

Potassium sodium tartrate 6381-59-5	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
Water 7732-18-5	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
Potassium sodium tartrate 6381-59-5	-	Not Established	-
Sodium sulfide 1313-84-4	-	Not Established	-
Sodium tetraborate, decahydrate 1303-96-4	-	Not Established	-
Water 7732-18-5	-	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
Potassium sodium tartrate 6381-59-5	Not Established
Sodium sulfide 1313-84-4	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established
Water 7732-18-5	Not Established

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium hydroxide 1310-73-2	X	X	X
Potassium sodium tartrate 6381-59-5	Not Established	Not Established	Not Established
Sodium sulfide 1313-84-4	X	X	Not Established
Sodium tetraborate, decahydrate 1303-96-4	X	X	X
Water 7732-18-5	Not Established	Not Established	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 Add POISON to label, 16 CFR 1500.129

**16. OTHER INFORMATION**

<b>NFPA</b>	Health hazard 2	Flammability 0	Instability 0	Physical and Chemical Hazards N/A
<b>HMIS</b>	Health hazard 2	Flammability 0	Stability 1	





Health Hazard	2
Fire Hazard	0
Reactivity	1

**Prepared by**

**Issuing Date**

**Revision Date**

**Reason for revision**

**Disclaimer**

Regulatory Affairs Department

May-27-2015

Jan-21-2016

(M)SDS sections updated 2 4 12 16

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 Safety Data Sheet**

**Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1. Product identifier - Labeling according to Regulations (EC) No 1272/2008**

**Product Code(s)** 4483  
**Product name** Hardness Reagent 5 Solution

**Synonyms** none  
**Substance or Preparation** Preparation

**1.2. Relevant identified uses of the substance or mixture and uses advised against**

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

**1.3. Details of the supplier of the safety data sheet**

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

Contact for timely inquiries in regards to this product:

**Person** Regulatory Affairs Department  
**E-mail address** msds@lamotte.com

**1.4. 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

**Section 2: HAZARD(S) IDENTIFICATION****2.1. Classification of the substance or mixture**

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

<b>Skin corrosion/irritation</b>	Category 1 - (H314)
<b>Serious eye damage/eye irritation</b>	Category 1 - (H318)

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC  
For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

**Symbol(s)**  
C - Corrosive

**R-code(s)**  
C;R35

**2.2. Label elements**

**Product identifier****Pictogram(s)****Signal word**

DANGER

**Hazard statements**

H314 - Causes severe skin burns and eye damage

**Precautionary Statements - EU (§28, 1272/2008)**

P280 - Wear protective gloves/protective clothing/eye protection/face protection. P260 - Do not breathe dust/fume/gas/mist/vapors/spray. P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P280 - Wear eye protection/ face protection. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a POISON CENTER or doctor/physician.

**2.3. Other hazards**

Harmful to aquatic life

## Section 3: COMPOSITION/ INFORMATION OF INGREDIENTS

**3.1 Substances**

Not Applicable

**3.2 Mixtures**

Chemical name	EC No	CAS No	Weight-%	Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No
Sodium hydroxide	EEC No. Present	1310-73-2	1	C; R35	Skin Corr. 1A (H314)	-
Sodium sulfide	-	1313-84-4	1	Xn; R22 T; R24 R31 C; R34 N; R50	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Skin Corr. 1B (H314) Aquatic Acute 1 (H400)	-
Sodium tetraborate, decahydrate	-	1303-96-4	4	Repr.Cat.2; R60-61	Repr. 1B (H360FD)	-

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

## Section 4: FIRST AID MEASURES

**4.1. Description of first aid measures****General advice**

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

**Inhalation**

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

**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.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
<b>Ingestion</b>	Do NOT induce vomiting. Drink plenty of water. Call a physician immediately. Never give anything by mouth to an unconscious person.
<b>Self-protection of the first aider</b>	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.

**4.2. Most important symptoms and effects, both acute and delayed**

None known

**4.3. Indication of any immediate medical attention and special treatment needed**

No data available

## Section 5: FIREFIGHTER MEASURES

**5.1. Extinguishing media****Suitable extinguishing media**

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

**Unsuitable extinguishing media**

No information available

**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapors

**5.3. Advice for firefighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

## Section 6: ACCIDENTAL RELEASE MEASURES

**6.1. 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.

**For emergency responders**

Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

See Section 12 for additional Ecological Information.

**6.3. 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.

**6.4. Reference to other sections**

For disposal see section 13.

**Methods for Containment and Clean Up** Pick up and transfer to properly labelled containers.

## Section 7: HANDLING AND STORAGE

### 7.1. 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.

#### 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.

### 7.2. 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.

### 7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

### 8.1. Control parameters

Chemical name	Eu	The United Kingdom	France	Spain	Germany
Sodium hydroxide 1310-73-2	Not Established	Not Established	TWA: 2 mg/m <sup>3</sup>	-	-
Sodium sulfide 1313-84-4	Not Established	Not Established	Not Established	-	-
Sodium tetraborate, decahydrate 1303-96-4	Not Established	STEL: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>	-	-
Chemical name	Italy	Portugal	The Netherlands	Finland	Denmark
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	-	STEL: 6 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>	-	Not Established	TWA: 2 mg/m <sup>3</sup> Skin
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Sodium hydroxide 1310-73-2	-	STEL: 2 mg/m <sup>3</sup>	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	-	STEL: 5 mg/m <sup>3</sup>	Not Established	TWA: 5 mg/m <sup>3</sup> STEL: 10 mg/m <sup>3</sup>	Not Established

Chemical name	European Union	United Kingdom	France	Spain	Germany
Sodium hydroxide 1310-73-2	-	-	-	-	-
Sodium sulfide 1313-84-4	-	-	-	-	-
Sodium tetraborate, decahydrate 1303-96-4	-	-	-	-	-
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Sodium hydroxide 1310-73-2	-	-	-	-	-
Sodium sulfide	-	-	-	-	-

1313-84-4					
Sodium tetraborate, decahydrate 1303-96-4	-	-	-	-	-
<b>Chemical name</b>	<b>Austria</b>	<b>Switzerland</b>	<b>Poland</b>	<b>Norway</b>	<b>Ireland</b>
Sodium hydroxide 1310-73-2	-	-	-	-	-
Sodium sulfide 1313-84-4	-	-	-	-	-
Sodium tetraborate, decahydrate 1303-96-4	-	-	-	-	-

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

## 8.2. Exposure controls

**Engineering Measures**  
Showers  
Eyewash stations  
Ventilation systems.

## Personal protective equipment

**Eye/Face Protection** Wear safety glasses with side shields (or goggles).  
**Skin and body protection** Long sleeved clothing.

**Environmental exposure controls** Do not allow material to contaminate ground water system.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		
Upper flammability limit:		Not applicable
Lower flammability limit:		Not applicable
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	

### 9.2. 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

## Section 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

Stable under recommended storage conditions.

### 10.3. Possibility of hazardous reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

#### **Hazardous Reactions**

None under normal processing.

### 10.4. Conditions to avoid

Incompatible Products.

### 10.5. Incompatible materials

Acids.

### 10.6. Hazardous decomposition products

None under normal use.

## Section 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### **Acute toxicity**

#### **Product Information**

##### **Inhalation**

Product does not present an acute toxicity hazard based on known or supplied information.

##### **Eye contact**

There is no data available for this product.

##### **Skin contact**

There is no data available for this product.

##### **Ingestion**

There is no data available for this product.

#### **Unknown Acute Toxicity**

1% of the mixture consists of ingredient(s) of unknown toxicity.

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)** 28,541.00 mg/kg

**ATEmix (dermal)** 17,600.00 mg/kg

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium hydroxide		= 1350 mg/kg ( Rabbit )	
Sodium sulfide	= 208 mg/kg ( Rat )	< 340 mg/kg ( Rabbit )	
Sodium tetraborate, decahydrate	= 2660 mg/kg ( Rat ) = 3493 mg/kg ( Rat )	> 10000 mg/kg ( Rabbit ) > 2000 mg/kg ( Rabbit )	

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

<b>Sensitization</b>	No information available.
<b>Mutagenic effects</b>	No information available.
<b>Carcinogenic effects</b>	No information available.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Aspiration hazard</b>	No information available.

## Section 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

Harmful to aquatic life

**Unknown Aquatic Toxicity** 1 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Sodium hydroxide	Not Established	45.4: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	Not Established
Sodium sulfide	Not Established	7.7 - 29.1: 96 h <i>Poecilia reticulata</i> mg/L LC50	2.1: 48 h <i>Daphnia magna</i> mg/L EC50
Sodium tetraborate, decahydrate	2.6 - 21.8: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static 158: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50	340: 96 h <i>Limanda limanda</i> mg/L LC50	1085 - 1402: 48 h <i>Daphnia magna</i> mg/L LC50

### 12.2. Persistence and degradability

No product level data available.

### 12.3. Bioaccumulative potential

No information available.

Chemical name	Log Pow
Sodium hydroxide	Not Established
Sodium sulfide	-3.5 - 3.5
Sodium tetraborate, decahydrate	Not Established

### 12.4. Mobility in soil

No information available.

### 12.5. Results of PBT and vPvB assessment

No information available.

Chemical name	PBT and vPvB assessment
Sodium hydroxide	-
Sodium sulfide	-
Sodium tetraborate, decahydrate	-

### 12.6. Other adverse effects

No information available



Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Sodium hydroxide	Not Established	Not Established	Not Established
Sodium sulfide	Not Established	Not Established	Not Established
Sodium tetraborate, decahydrate	Not Established	Not Established	Not Established

### Section 13: DISPOSAL CONSIDERATIONS

#### 13.1. Waste treatment methods

<b>Waste from residues/unused products</b>	Dispose of waste product or used containers according to local regulations.
<b>Contaminated packaging</b>	Empty remaining contents.
<b>Other Information</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

### Section 14: TRANSPORT INFORMATION

#### IMDG/IMO

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

#### ICAO

14.1 UN-No	3266
14.2 Proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (1% Sodium sulfide)
14.3 Hazard Class	8
14.4 Packing group	III
14.5	
14.6	

#### IATA

14.1 UN-No	3266
14.2 Proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (1% Sodium sulfide)
14.3 Hazard Class	8
14.4 Packing group	III
14.5	
14.6	

### Section 15: REGULATORY INFORMATION

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Chemical name	French RG number	Title
Sodium hydroxide (CAS # 1310-73-2)	-	-
Sodium sulfide (CAS # 1313-84-4)	-	-
Sodium tetraborate, decahydrate (CAS # 1303-96-4)	-	-

#### Germany

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**International Inventories**

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

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out for this substance/mixture by the supplier.

**Section 16: ANY OTHER RELEVANT INFORMATION****Key or legend to abbreviations and acronyms used in the safety data sheet****Text of R phrases mentioned in Section 3**

R35 - Causes severe burns

R50 - Very toxic to aquatic organisms

R22 - Harmful if swallowed

R24 - Toxic in contact with skin

R31 - Contact with acids liberates toxic gas

R34 - Causes burns

R61 - May cause harm to the unborn child

R60 - May impair fertility

**Full text of H-Statements referred to under section 3**

H360FD - May damage fertility. May damage the unborn child

H314 - Causes severe skin burns and eye damage

H302 - Harmful if swallowed

H311 - Toxic in contact with skin

H400 - Very toxic to aquatic life

**Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**TWA** - TWA (time-weighted average)

**STEL** - STEL (Short Term Exposure Limit)

**Ceiling** - Maximum limit value

**Prepared by** Regulatory Affairs Department

**Issuing Date** May-27-2015

**Revision Date** Jan-21-2016

**Reason for revision** (M)SDS sections updated, 2, 4, 12, 16.

**Recommendations on Use**                      Laboratory chemicals Industrial (not for food or food contact use) Restricted to professional users

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

**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 Safety Data Sheet

## 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**

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**

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-%
Sodium hydroxide	1310-73-2	5.4
Triethanolamine	102-71-6	5.6

**4. FIRST AID MEASURES**

**First Aid Measures**

<b>Eye contact</b>	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.
<b>Skin contact</b>	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.
<b>Inhalation</b>	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.
<b>Ingestion</b>	Do NOT induce vomiting. Call a physician immediately. Drink plenty of water. Never give anything by mouth to an unconscious person.
<b><u>Self-protection of the first aider</u></b>	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. FIREFIGHTING MEASURES**

**Suitable extinguishing media**

Dry chemical or CO<sub>2</sub>. 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**

<b>Personal precautions</b>	Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.



pH	13-14	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	Not Applicable	
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**

<b>Stability</b>	Stable under recommended storage conditions.
<b>Hazardous Reactions</b>	Reacts violently with water. Contact with metals may evolve flammable hydrogen gas.
<b>Hazardous polymerization</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Excessive heat. Moisture. Incompatible Products.
<b>Incompatible materials</b>	Water. Strong bases. Metals. Combustible materials. Cyanides. Sulfides. Formaldehyde.
<b>Hazardous decomposition products</b>	Hydrogen gas. Sulfur oxides (SOx).

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Component identification**

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
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
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)** 74,821.00 mg/kg  
**ATEmix (dermal)** 23,194.00 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)
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
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
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
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
Sodium hydroxide 1310-73-2	Toxic Corrosive



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/NDL Complies  
 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/NDL - 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
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
Sodium hydroxide 1310-73-2	1000 lb	Not Established	Not Established	X
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
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
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
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 Add POISON to label, 16 CFR 1500.129

**16. OTHER INFORMATION**

**NFPA**

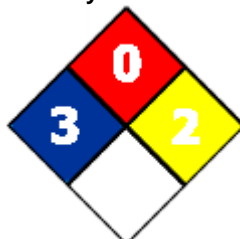
Health hazard 3

Flammability 0

Instability 2

Physical and Chemical Hazards W

Stability 2



Health Hazard	<b>3</b>
Fire Hazard	<b>0</b>
Reactivity	<b>2</b>

**Prepared by**  
**Issuing Date**  
**Disclaimer**

Regulatory Affairs Department  
May-05-2015

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 Safety Data Sheet**