

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****Product identifier****Product name** Hardness Reagent 5 Solution**Other means of identification****Product Code(s)** 4483**UN-No** 3266**Recommended use of the chemical and restrictions on use****Recommended Use** Use as a laboratory reagent. Laboratory chemicals. Industrial (not for food or food contact use).**Details of the supplier of the safety data sheet****Manufacturer Address**LaMotte Company, Inc.  
802 Washington Avenue  
P.O. Box 329  
Chestertown, MD 21620 USA  
T 410-778-3100  
F 410-778-9748**Emergency telephone numbers**

(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.

**Response:** Immediately call a poison center or physician.

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

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

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

**Storage:**

Store locked up.

**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 #	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**

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<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**

<b>Personal precautions</b>	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. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

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

<b>Methods for containment</b>	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).
<b>Methods for cleaning up</b>	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**

<b>Handling</b>	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.
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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. Separate from acids. Keep out of the reach of children.
<b>Incompatible Products</b>	Acids.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
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**

Harmful to aquatic life

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	Not Established	Not Established	Not Established	Not Established

7732-18-5			
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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

##### TDG

Not regulated

##### MEX

Not regulated

##### ICAO

Not regulated

##### IATA

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

##### IMDG/IMO

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

##### RID

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

##### ADR

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

##### ADN

Not regulated

#### 15. REGULATORY INFORMATION

##### International Inventories

TSCA Complies  
DSL/NDL 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**

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****NFPA**

Health hazard 2

Flammability 0

Instability 0

Physical and Chemical  
Hazards N/A**HMIS**

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  
Feb-16-2017  
Sep-13-2016  
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**