

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

Product identifier

Product name Hardness Reagent 5

Other means of identification

Product Code(s) FMC-4483

UN-No 3266

Recommended use of the chemical and restrictions on use

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

Details of the supplier of the safety data sheet

Manufacturer Address

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

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW

DANGER

Hazard statements

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



Appearance Clear, colorless

Physical state liquid

Odor Sulfur Rotten-egg like

Precautionary Statements - Prevention

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

Immediately call a POISON CENTER or physician.

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

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

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

IF SWALLOWED Rinse mouth Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

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

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-%
Potassium sodium tartrate	6381-59-5	1
Sodium sulfide	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

First Aid Measures

General advice

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.

Eye contact

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.

Skin contact

Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation

Remove 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.

Ingestion

Do NOT induce vomiting. Drink plenty of water. Rinse mouth. If symptoms persist or develop contact physician.

Self-protection of the first aider

Use personal protective equipment.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Water spray, dry chemical, carbon dioxide (CO₂), or foam.

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Avoid contact with eyes, skin and clothing. See section 8. Wear protective gloves/clothing and eye/face protection.
Environmental precautions	Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Soak up with inert absorbent material, containerize, and hold for disposal. Dispose according to federal, state, and local regulations.
Methods for cleaning up	Clean contaminated surface thoroughly. Following product recovery, flush area with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling	Wear personal protective equipment. Avoid contact with eyes, skin and clothing. Do not eat, drink, or smoke when using this product. See section 8.
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Conditions for safe storage, including any incompatibilities

Storage	Keep container tightly closed in a dry and well-ventilated place. Protect from light. Store away from incompatible materials. Keep out of the reach of children.
Incompatible Products	Strong acids. Metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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

NIOSH IDLH: *Immediately Dangerous to Life or Health*

Appropriate engineering controls

Engineering Measures	Showers Eyewash stations Ventilation systems.
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Individual protection measures, such as personal protective equipment

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

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

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	12-13	No information available
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	<17	mm Hg @ 20°C
Vapor density	<1	(air=1)
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.
Hazardous Reactions	Contact with acids liberates very toxic gas. Contact with metals may evolve flammable hydrogen gas.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	None known.
Incompatible materials	Strong acids. Metals.
Hazardous decomposition products	Hydrogen sulfide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
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 hydroxide 1310-73-2	Not Established	= 1350 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, distilled 7732-18-5	> 90 mL/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
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 hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established	Group 2A	Not Established	X
Water, distilled 7732-18-5	Not Established	Not Established	Not Established	Not Established

ATEmix (oral) 28541
ATEmix (dermal) 17508 mg/kg

12. ECOLOGICAL INFORMATION**Ecotoxicity**

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)
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 <i>Poecilia reticulata</i> mg/L LC50	2.1: 48 h <i>Daphnia magna</i> mg/L EC50
Sodium hydroxide 1310-73-2	Not Established	45.4: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static	Not Established
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	1085 - 1402: 48 h <i>Daphnia</i> <i>magna</i> mg/L LC50
Water, distilled 7732-18-5	Not Established	Not Established	Not Established

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

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

Water, distilled 7732-18-5	Not Established
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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
Potassium sodium tartrate 6381-59-5	Not Established	-	Not Established	Not Established
Sodium sulfide 1313-84-4	Not Established	-	Not Established	Not Established
Sodium hydroxide 1310-73-2	Not Established	-	Not Established	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established	-	Not Established	Not Established
Water, distilled 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
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 hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established	Not Established	Not Established	Not Established
Water, distilled 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
Potassium sodium tartrate 6381-59-5	-
Sodium sulfide 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)
UN-No 3266
Hazard Class 8
Packing group III

IATA

Proper shipping name CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (1% Sodium sulfide)

UN-No 3266
 Hazard Class 8
 Packing group III

IMDG/IMO

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

15. REGULATORY INFORMATION

International Inventories

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

Legend:

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

US Federal Regulations**SARA 313**

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

Chemical name	SARA 313 - Threshold Values %
Potassium sodium tartrate 6381-59-5	Not Established
Sodium sulfide 1313-84-4	Not Established
Sodium hydroxide 1310-73-2	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established
Water, distilled 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

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 hydroxide 1310-73-2	Not Established	Not Established	Not Established	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established	Not Established	Not Established	Not Established
Water, distilled 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
Potassium sodium tartrate 6381-59-5	-	Not Established	-
Sodium sulfide 1313-84-4	-	Not Established	-
Sodium hydroxide 1310-73-2	1000 lb	Not Established	RQ 1000 lb final RQ RQ 454 kg final RQ
Sodium tetraborate, decahydrate 1303-96-4	-	Not Established	-
Water, distilled 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
Potassium sodium tartrate 6381-59-5	Not Established
Sodium sulfide 1313-84-4	Not Established
Sodium hydroxide 1310-73-2	Not Established
Sodium tetraborate, decahydrate 1303-96-4	Not Established
Water, distilled 7732-18-5	Not Established

U.S. State Right-to-Know Regulations

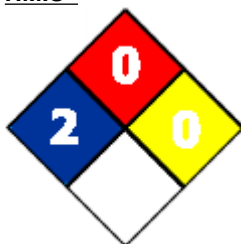
Chemical name	New Jersey	Massachusetts	Pennsylvania
Potassium sodium tartrate 6381-59-5	Not Established	Not Established	Not Established
Sodium sulfide 1313-84-4	X	X	Not Established
Sodium hydroxide 1310-73-2	X	X	X
Sodium tetraborate, decahydrate 1303-96-4	X	X	X
Water, distilled 7732-18-5	Not Established	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 ($\geq 10\%$ by weight in liquid drain cleaners); Add POISON to label, 16 CFR 1500.129 ($\geq 10\%$, free or chemically unneutralized)

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	Regulatory Affairs Department
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Revision Date	Sep-08-2015
Reason for revision	New US GHS format

Disclaimer

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

End of Material Safety Data Sheet