

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

### Product identifier

Product name Alkaline Potassium Iodide with Azide

### Other means of identification

Product Code(s) 7166

UN-No 2922

### Recommended use of the chemical and restrictions on use

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

### Details of the supplier of the safety data sheet

#### Manufacturer Address

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

### Emergency telephone number

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

## 2. HAZARDS IDENTIFICATION

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

### EMERGENCY OVERVIEW

#### DANGER

#### Hazard statements

Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage.



Appearance Clear, colorless

Physical state liquid

Odor Odorless

#### Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray.

#### Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a poison center or doctor/physician if you feel unwell. Wash contaminated clothing before reuse. IF ON SKIN (or hair):

Remove immediately all contaminated clothing. Rinse skin with water.

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

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. IF SWALLOWED. 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 with long lasting effects

**Unknown Acute Toxicity**

15% of the mixture consists of ingredient(s) of unknown toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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

Chemical name	CAS No	Weight-%
Sodium azide	26628-22-8	1.05
Potassium iodide	7681-11-0	15
Potassium hydroxide	1310-58-3	70

### 4. FIRST AID MEASURES

**First Aid Measures**

**General advice**

Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Do not delay care and transport of a seriously injured person.

**Eye contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Call a physician immediately.

**Skin contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Immediate medical attention is required.

**Inhalation**

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

**Ingestion**

Do NOT induce vomiting. Drink plenty of water. Immediate medical attention is required. Never give anything by mouth to an unconscious person. Rinse mouth.

**Self-protection of the first aider**

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

### 5. FIREFIGHTING MEASURES

**Suitable extinguishing media**

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

**Specific hazards arising from the chemical**

React vigorously and/or explosively with water.

**Hazardous combustion products**

Contact with metals may evolve flammable hydrogen gas.

**Protective equipment and precautions for firefighters**

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

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Ensure adequate ventilation, especially in confined areas.

**Environmental precautions** See Section 12 for additional Ecological Information.

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

**Methods for containment** Do not flush to sewer. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Dispose of contents/containers in accordance with local regulations.

**Methods for cleaning up** Clean contaminated surface thoroughly. 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. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Do not eat, drink or smoke when using this product.

**Conditions for safe storage, including any incompatibilities**

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat. Store away from incompatible materials. Protect from moisture. Keep away from metals and organic halogens. Do not flush into surface water or sanitary sewer system. Keep out of the reach of children.

**Incompatible Products** Strong acids. Metals. Water reactive material.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium azide 26628-22-8	Ceiling: 0.29 mg/m <sup>3</sup> NaN <sub>3</sub> Ceiling: 0.11 ppm Hydrazoic acid vapor	(vacated) S* (vacated) Ceiling: 0.1 ppm HN <sub>3</sub> (vacated) Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>	Ceiling: 0.1 ppm HN <sub>3</sub> Ceiling: 0.3 mg/m <sup>3</sup> NaN <sub>3</sub>
Potassium iodide 7681-11-0	TWA: 0.01 ppm inhalable fraction and vapor	-	Not Established
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m <sup>3</sup>	(vacated) Ceiling: 2 mg/m <sup>3</sup>	Ceiling: 2 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

**Individual protection measures, such as personal protective equipment**

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

<b>Skin and body protection</b>	Wear protective gloves/protective clothing/eye protection/face protection. Nitrile rubber.
<b>Respiratory protection</b>	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
<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. Take off contaminated clothing and wash before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	liquid		
<b>Appearance</b>	Clear, colorless	<b>Odor</b>	Odorless
<b>Property</b>	<b>Values</b>	<b>Remarks • Method</b>	
pH	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	No information available		
Vapor density	No information available		
Specific gravity	~1.5 (water = 1)		
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

<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. Incompatible Products.
<b>Incompatible materials</b>	Strong acids. Metals. Water reactive material.
<b>Hazardous decomposition products</b>	Carbon oxides (COx). Potassium Oxides.

## 11. TOXICOLOGICAL INFORMATION

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

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Sodium azide 26628-22-8	= 27 mg/kg ( Rat )	= 20 mg/kg ( Rabbit ) = 50 mg/kg ( Rat )	Not Established
Potassium iodide 7681-11-0	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	= 284 mg/kg ( Rat )	Not Established	Not Established

**Information on toxicological effects**

Chemical name	ACGIH	IARC	NTP	OSHA
Sodium azide 26628-22-8	Not Established	Not Established	Not Established	Not Established
Potassium iodide 7681-11-0	Not Established	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	Not Established	Not Established	Not Established	Not Established

**Chronic toxicity** Prolonged exposure may cause chronic effects.

ATEmix (oral) 475.00 mg/kg  
ATEmix (dermal) 1,619.00 mg/kg

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

**Unknown Aquatic Toxicity** 15 % 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 azide 26628-22-8	Not Established	0.7: 96 h <i>Lepomis macrochirus</i> mg/L LC50 0.8: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 5.46: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through	Not Established
Potassium iodide 7681-11-0	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	Not Established	80: 96 h <i>Gambusia affinis</i> mg/L LC50 static	Not Established

**Persistence and degradability**

Based on components product is expected to be poorly eliminated from water and poorly biodegradable.

**Bioaccumulation/Accumulation**

Some components of this material have some potential to bioaccumulate but not all have been tested. Sodium azide: When released into the soil, this material is not expected to biodegrade. When released into the soil, this material is expected to leach into groundwater. When released into the air, this material may be moderately degraded by photolysis.

Chemical name	Log Pow
Sodium azide 26628-22-8	Not Established
Potassium iodide 7681-11-0	Not Established
Potassium hydroxide 1310-58-3	0.65 0.83

**13. DISPOSAL CONSIDERATIONS****Disposal Methods**

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
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Sodium azide 26628-22-8	Not Established	-	Not Established	Not Established
Potassium iodide 7681-11-0	Not Established	-	Not Established	Not Established
Potassium hydroxide 1310-58-3	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 azide 26628-22-8	Not Established	P105	Not Established	Not Established
Potassium iodide 7681-11-0	Not Established	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Sodium azide 26628-22-8	Ignitable Reactive
Potassium iodide 7681-11-0	-
Potassium hydroxide 1310-58-3	Toxic Corrosive

#### 14. TRANSPORT INFORMATION

##### DOT

**Proper shipping name** CORROSIVE LIQUIDS, TOXIC, NOS (Potassium hydroxide/Sodium azide solution)  
**UN-No** 2922  
**Hazard Class** 8  
**Subsidiary class** 6.1  
**Packing group** II  
**Reportable Quantity (RQ)** 1000

##### IATA

**Proper shipping name** CORROSIVE LIQUIDS, TOXIC, NOS (Potassium hydroxide/Sodium azide solution)  
**UN-No** 2922  
**Hazard Class** 8  
**Subsidiary class** 6.1  
**Packing group** II

##### IMDG/IMO

**Proper shipping name** CORROSIVE LIQUIDS, TOXIC, NOS (Potassium hydroxide/Sodium azide solution)  
**UN-No** 2922  
**Hazard Class** 8  
**Subsidiary class** 6.1  
**Packing group** II

#### 15. REGULATORY INFORMATION

##### International Inventories

**TSCA** Complies  
**DSL/NDL** Complies  
**EINECS/ELINCS** Complies  
**ENCS** Complies  
**IECSC** Complies  
**KECL** Complies  
**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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Sodium azide 26628-22-8	1.0
Potassium iodide 7681-11-0	Not Established
Potassium hydroxide 1310-58-3	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 contains the following substances which are regulated 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 azide 26628-22-8	Not Established	Not Established	Not Established	Not Established
Potassium iodide 7681-11-0	Not Established	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	1000 lb	Not Established	Not Established	X

**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
Sodium azide 26628-22-8	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ
Potassium iodide 7681-11-0	-	Not Established	-
Potassium hydroxide 1310-58-3	1000 lb	Not Established	RQ 1000 lb final RQ RQ 454 kg final RQ

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals

Chemical name	California Proposition 65
Sodium azide	Not Established

26628-22-8	
Potassium iodide 7681-11-0	Not Established
Potassium hydroxide 1310-58-3	Not Established

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sodium azide 26628-22-8	X	X	X
Potassium iodide 7681-11-0	Not Established	Not Established	Not Established
Potassium hydroxide 1310-58-3	X	X	X

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

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances
Potassium hydroxide 1310-58-3	Banned, 16 CFR 1500.17 Add POISON to label, 16 CFR 1500.129

**16. OTHER INFORMATION****NFPA**

Health hazard 3

Flammability 0

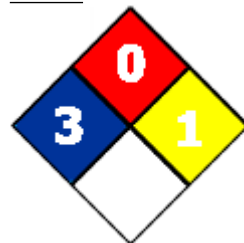
Instability 0

**Physical and Chemical Hazards** W**HMIS**

Health hazard 3

Flammability 0

Stability 2



Health Hazard	3
Fire Hazard	0
Reactivity	2

Prepared by  
Issuing Date  
Disclaimer

Regulatory Affairs Department  
Apr-07-2015

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** MANGANOUS SULFATE SOLUTION

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**Other means of identification**

**Product Code(s)** 4167

**Recommended use of the chemical and restrictions on use**

**Recommended Use** Laboratory chemicals. Industrial (not for food or food contact use). Chemical additive.  
Swimming pool chemicals.

**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

Specific target organ toxicity (repeated exposure)

Category 2

### EMERGENCY OVERVIEW

**WARNING**

**Hazard statements**

May cause damage to organs through prolonged or repeated exposure.



**Appearance** Clear pink

**Physical state** liquid

**Odor** None

**Precautionary Statements - Prevention**

Do not breathe dust/fume/gas/mist/vapors/spray.

**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.

**Precautionary Statements - Disposal**

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

**Other Hazards**

May be harmful if swallowed Toxic to aquatic life with long lasting effects

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name	CAS No	Weight-%
Manganese sulfate monohydrate	10034-96-5	36

**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>	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 soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Consult a physician if necessary.
<b>Inhalation</b>	Remove to fresh air. Call a physician immediately.
<b>Ingestion</b>	DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Call a physician immediately.
<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**

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

**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).
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**Methods for cleaning up**

Use personal protective equipment. 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). Following product recovery, flush area with water.

## 7. HANDLING AND STORAGE

**Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Use only in area provided with appropriate exhaust ventilation. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product.

**Conditions for safe storage, including any incompatibilities****Storage**

Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials. Keep out of the reach of children.

**Incompatible Products**

Strong bases. Metals.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese sulfate monohydrate 10034-96-5	TWA: 0.02 mg/m <sup>3</sup> Mn TWA: 0.1 mg/m <sup>3</sup> Mn***	(vacated) Ceiling: 5 mg/m <sup>3</sup> Ceiling: 5 mg/m <sup>3</sup> Mn***	IDLH: 500 mg/m <sup>3</sup> Mn TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn***

**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**

Gloves & Lab Coat.

**Respiratory protection**

Use only with adequate ventilation. In case of insufficient ventilation wear suitable respiratory equipment.

**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  
Appearance**

liquid  
Clear pink

**Odor**

None

**Property****Values****Remarks • Method****pH**

3

**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	Excessive heat.
Incompatible materials	Strong bases. Metals.
Hazardous decomposition products	Sulfur oxides (SOx). Manganese oxides.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Component identification**

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Manganese sulfate monohydrate 10034-96-5	= 782 mg/kg ( Rat )***	Not Established	Not Established

**Information on toxicological effects**

Chemical name	ACGIH	IARC	NTP	OSHA
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established	Not Established

<b>Chronic toxicity</b>	Chronic manganese poisoning primarily involves the central nervous system. Chronic manganese poisoning can result from excessive inhalation and ingestion. Early symptoms include sluggishness, sleepiness, and weakness in the legs. Kidney effects. Chronic inhalation exposure can cause lung damage.
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ATEmix (oral)	2,172.00 mg/kg
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**12. ECOLOGICAL INFORMATION****Ecotoxicity**

**Unknown Aquatic Toxicity** 64 % 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)
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established

**Persistence and degradability**

No information available.

**Bioaccumulation/Accumulation**

No information available.

Chemical name	Log Pow
Manganese sulfate monohydrate 10034-96-5	Not Established

**13. DISPOSAL CONSIDERATIONS****Disposal Methods** Dispose of waste product or used containers according to local regulations.**Contaminated packaging** Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Manganese sulfate monohydrate 10034-96-5	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Manganese sulfate monohydrate 10034-96-5	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Manganese sulfate monohydrate 10034-96-5	-

**14. TRANSPORT INFORMATION****DOT** Not regulated**IATA** Not regulated**IMDG/IMO** Not regulated**15. REGULATORY INFORMATION****International Inventories**

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

**Legend:**

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

DSL/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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Manganese sulfate monohydrate 10034-96-5	1.0***

**SARA 311/312 Hazard Categories**

Acute health hazard	Yes
Chronic Health Hazard	Yes
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
Manganese sulfate monohydrate 10034-96-5	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
Manganese sulfate monohydrate 10034-96-5	-	Not Established	-

**US State Regulations****California Proposition 65**

Chemical name	California Proposition 65
Manganese sulfate monohydrate 10034-96-5	Not Established

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
Manganese sulfate monohydrate 10034-96-5	X***	Not Established	X***

**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 2	Flammability 0	Stability 0	



Health Hazard	2
Fire Hazard	0
Reactivity	0

Prepared by  
Issuing Date  
Reason for revision

Regulatory Affairs Department  
Jun-01-2015  
MSDS was reviewed per Canada request - Canada requires MSDS to be dated within 3 years of the request

**Disclaimer**

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

**End of Safety Data Sheet**

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING****Product identifier****Product name** Sodium Thiosulfate .025 N

\*\*\*

**Other means of identification****Product Code(s)** 4169**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****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** Colorless**Physical state** liquid**Odor** None**Precautionary Statements - Prevention**

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: 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.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

#### 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>	Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash off with warm water and soap. If skin irritation persists, call a physician.
<b>Inhalation</b>	Not expected. Remove to fresh air.
<b>Ingestion</b>	Drink plenty of water. Consult a physician if necessary.
<b><u>Self-protection of the first aider</u></b>	Use personal protection recommended in Section 8. 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>, alcohol-resistant foam or water spray.

##### 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.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b><u>Methods and material for containment and cleaning up</u></b>	
<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>	If local regulations permit, rinse to drain with excess water. 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. Store at room temperature. Keep away from direct sunlight. Store away from incompatible materials. Keep out of the reach of children.
<b>Incompatible Products</b>	Acids.

## 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>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>	None
<b>Appearance</b>	Colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	10	
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

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	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	Excessive heat. Direct sunlight. Incompatible Products.
Incompatible materials	Acids.
Hazardous decomposition products	

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

### Component identification

### Information on toxicological effects

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

### Persistence and degradability

No information available.

### Bioaccumulation/Accumulation

No information available.

## 13. DISPOSAL CONSIDERATIONS

Disposal Methods	This material, as supplied, is not a hazardous waste according to state and federal regulations (40 CFR 261). Can be disposed as waste water, when in compliance with local regulations.
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Contaminated packaging	Do not reuse empty containers.
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## 14. TRANSPORT INFORMATION

<u>DOT</u>	Not regulated
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<u>IATA</u>	Not regulated
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<u>IMDG/IMO</u>	Not regulated
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## 15. REGULATORY INFORMATION

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<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

**SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	No
<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, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

**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**

<b>16. OTHER INFORMATION</b>
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<b><u>NFPA</u></b>	<b>Health hazard</b> 1	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards</b> N/A
<b><u>HMIS</u></b>	<b>Health hazard</b> 1	<b>Flammability</b> 0	<b>Stability</b> 0	



Health Hazard	1
Fire Hazard	0
Reactivity	0

**Prepared by**

Regulatory Affairs Department

**Issuing Date**

Jun-01-2015

**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** STARCH INDICATOR SOLUTION

\*\*\*

**Other means of identification****Product Code(s)** 4170**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****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** Colorless**Physical state** liquid**Odor** None**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.

**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>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If irritation persists or develops, contact a physician.
<b>Skin contact</b>	Wash off with warm water and soap. If skin irritation persists, call a physician.
<b>Inhalation</b>	Not expected.
<b>Ingestion</b>	Drink plenty of water. Do not induce vomiting without medical advice (pH 3). Consult a 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>, alcohol-resistant foam or water spray.

##### 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 protective equipment. See section 8. Avoid contact with eyes, skin and clothing.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.

##### 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 spill with alkaline material (sodium bicarbonate), being careful to prevent splattering, then containerize slurry and hold for later disposal. If local regulations permit, dilute slurry with water and rinse to drain with excess water. 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. 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. Store at room temperature. Keep away from direct sunlight. Store away from incompatible materials. Keep out of the reach of children.
<b>Incompatible Products</b>	Strong oxidizing agents. Iron Salts.

**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>	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
<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>Appearance</b>	Colorless	<b>Odor</b>	None

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	3	
Melting point / freezing point	No information available	
Boiling point / boiling range	ca. 100 °C / 212 °F	
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 normal conditions of use and storage.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Excessive heat. Incompatible products. Direct sunlight.
Incompatible materials	Strong oxidizing agents. Iron Salts.
Hazardous decomposition products	Carbon monoxide (CO).

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Component identification****Information on toxicological effects**

Chronic toxicity	Prolonged skin contact may cause skin irritation and/or dermatitis.
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**12. ECOLOGICAL INFORMATION****Ecotoxicity**

**Unknown Aquatic Toxicity** 99.87 % 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**

Disposal Methods	Dispose according to federal, state, and local regulations. If permitted, neutralize reagent with sodium bicarbonate/sodium carbonate, add slurry to large volume of water to dilute, rinse to drain with excess water.
Contaminated packaging	Do not reuse empty containers.

**14. TRANSPORT INFORMATION**

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

Not regulated

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

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<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

**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**

This product does not contain any Proposition 65 chemicals

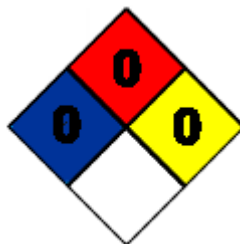
**U.S. State Right-to-Know Regulations****CPSC (Consumer Product Safety Commission) - Specially Regulated Substances****16. OTHER INFORMATION**

NFPA

Health hazard 0

Flammability 0

Instability 0

Physical and Chemical  
Hazards N/A

Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by  
Issuing Date  
Reason for revision

Regulatory Affairs Department  
Jun-01-2015  
MSDS was reviewed per Canada request - Canada requires MSDS to be dated within 3 years of the request

Disclaimer

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

**End of Safety Data Sheet**

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

### Product identifier

Product name Sulfuric Acid 1:1

\*\*\*

### Other means of identification

Product Code(s) 6141

UN-No 1830

### Recommended use of the chemical and restrictions on use

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

### Details of the supplier of the safety data sheet

#### Manufacturer Address

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

### Emergency telephone number

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

## 2. HAZARDS IDENTIFICATION

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

### EMERGENCY OVERVIEW

#### DANGER POISON

#### Hazard statements

Causes severe skin burns and eye damage.



Appearance Clear, colorless

Physical state liquid

Odor Odorless

#### 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.

#### 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**

May be harmful if swallowed

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name	CAS No	Weight-%
Sulfuric acid	7664-93-9	64

**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>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Call a physician immediately.
<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. If symptoms persist, call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Drink plenty of water. Clean mouth with water. Call a physician immediately. Never give anything by mouth to an unconscious person.
<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, and take precautions to protect themselves.

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

Dry chemical. Carbon dioxide (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**

**Personal precautions** Use personal protection recommended in Section 8. Ensure adequate ventilation. 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 spill with alkaline material (sodium bicarbonate), being careful to prevent splattering, then containerize slurry and hold for later disposal. If local regulations permit, dilute slurry with water and rinse to drain with excess water. 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. Keep away from incompatible materials such as cyanides or sulfides. Store away from strong bases or metals. Do not store near combustible materials. Keep out of the reach of children.

**Incompatible Products** Water. Strong bases. Metals. Combustible materials. Cyanides. Sulfides. Formaldehyde.

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

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m <sup>3</sup> thoracic fraction***	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup> ***	IDLH: 15 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup> ***

**Appropriate engineering controls**

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

**Individual protection measures, such as personal protective equipment**

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

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

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

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

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

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

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	<1	
Melting point / freezing point	No information available	
Boiling point / boiling range	<100 °C / 214 °F	
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	~3.4 (water = 1)	
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**

<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. Incompatible Products. Protect from light.
<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
Sulfuric acid 7664-93-9	= 2140 mg/kg ( Rat )***	Not Established	= 510 mg/m <sup>3</sup> ( Rat ) 2 h***

**Information on toxicological effects**

**Carcinogenicity** IARC has classified "strong inorganic acid mists containing sulfuric acid" as a known human carcinogen, (IARC category 1). This classification applies only to occupational exposures to these mists. (Steel pickling / the manufacture of isopropyl alcohol by strong-acid process that uses sulfuric acid).

Chemical name	ACGIH	IARC	NTP	OSHA
Sulfuric acid 7664-93-9	A2***	Group 1***	Known***	X***

**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.

**ATEmix (oral)** 3,344.00 mg/kg mg/l

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Sulfuric acid 7664-93-9	Not Established	500: 96 h Brachydanio rerio mg/L LC50 static***	29: 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
Sulfuric acid 7664-93-9	Not Established

## 13. DISPOSAL CONSIDERATIONS

### Disposal Methods

Dispose of contents/containers in accordance with local regulations. When in compliance with local regulations, neutralize reagent to pH 7 with dilute base (NaOH/soda ash/slaked lime), then rinse to drain with excess water.

### Contaminated packaging

Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Sulfuric acid 7664-93-9	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sulfuric acid 7664-93-9	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Sulfuric acid 7664-93-9	Toxic Corrosive***

## 14. TRANSPORT INFORMATION

### DOT

**Proper shipping name** SULFURIC ACID ( > 51%ACID)  
**UN-No** 1830  
**Hazard Class** 8  
**Packing group** II  
**Reportable Quantity (RQ)** 1000

### IATA

**Proper shipping name** SULFURIC ACID ( > 51%ACID)

UN-No 1830  
Hazard Class 8  
Packing group II

**IMDG/IMO**

Proper shipping name SULFURIC ACID ( > 51%ACID)  
UN-No 1830  
Hazard Class 8  
Packing group II

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

TSCA Complies  
DSL/NDSL Complies  
EINECS/ELINCS Complies  
ENCS Complies  
IECSC Complies  
KECL Complies  
PICCS Complies  
AICS Complies

**Legend:**

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

**US Federal Regulations****SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Sulfuric acid 7664-93-9	1.0***

**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 contains the following substances which are regulated 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
Sulfuric acid 7664-93-9	1000 lb***	Not Established	Not Established	X***

**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
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Sulfuric acid 7664-93-9	1000 lb***	1000 lb***	RQ 1000 lb final RQ RQ 454 kg final RQ***
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**US State Regulations****California Proposition 65**

California Proposition 65 has classified "strong inorganic acid mists containing sulfuric acid" as a chemical known to the State of California to cause cancer. This classification applies only to occupational exposures to these mists generated during manufacturing processes which sulfuric acid is used or produced.

Chemical name	California Proposition 65
Sulfuric acid 7664-93-9	Carcinogen***

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

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid 7664-93-9	X***	X***	X***

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

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances
Sulfuric acid 7664-93-9	Add POISON to label, 16 CFR 1500.129***

**16. OTHER INFORMATION****NFPA**

Health hazard 3

Flammability 0

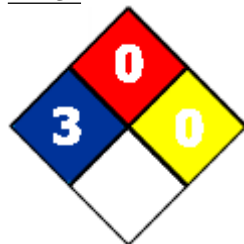
Instability 0

Physical and Chemical  
Hazards W**HMIS**

Health hazard 3

Flammability 0

Stability 2



Health Hazard	3
Fire Hazard	0
Reactivity	2

**Prepared by  
Issuing Date  
Disclaimer**Regulatory Affairs Department  
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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**