Material Safety Data Sheet

Issuing Date 12/15/2010 **Revision Number** 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **Manganous Sulfate Solution**

Product Code(s) 4167

Synonyms none

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

Company

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

Emergency Telephone Number

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

2. HAZARDS IDENTIFICATION

Emergency Overview

Harmful if swallowed
May irritate eyes and skin

Appearance Clear, Pink **Physical State** Liquid **Odor** None

OSHA Regulatory Status While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Potential Health Effects

Principle Routes of Exposure Skin contact, Ingestion

Acute Toxicity

Eyes Irritating to eyes.

Skin Irritating to skin.

Inhalation May cause irritation of respiratory tract.

Ingestion Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects Chronic manganese poisoning primarily involves the central nervous system.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Manganese sulfate monohydrate	10034-96-5	36
Water	7732-18-5	to 100%

4. FIRST AID MEASURES

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

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Consult a physician.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.

Ingestion 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. Consult a physician.

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

5. FIRE-FIGHTING MEASURES

Flammable Properties Not a fire hazard.

Flash Point Not applicable

Suitable Extinguishing Media Water spray, dry chemical, carbon dioxide (CO_2), or foam.

Explosion Data

NFPA **Health Hazard** 1 **Flammability** 0 **Stability** 0 **Physical and Chemical Hazards** -

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Refer to Section 8. Avoid contact with skin, eyes and clothing.

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 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

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 ingest. Do not eat, drink or smoke when using this product.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH

Manganese sulfate monohydrate 10034-96-5	TWA: 0.2 mg/m^3	None Known	IDLH: 500 mg/m^3 TWA: 1 mg/m^3 STEL: 3 mg/m^3
Water 7732-18-5	None Known	None Known	None Known

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields.

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

Appearance	Clear Pink	**Odor**	None
Physical State	Liquid	**pH**	3
Flash Point	Not applicable	**Autoignition Temperature**	Not applicable
Boiling Point/Range	No information available	**Freezing Point**	No information available
Solubility	Soluble	**Vapor Pressure**	<17 mmHg @ 20°C
Vapor Density	No data available		

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of use and storage.

Incompatible Products Strong bases. Metals.

Conditions to Avoid Excessive heat.

Hazardous Decomposition Products Sulfur oxides. Manganese oxides.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Manganese sulfate monohydrate	None Known	None Known	None Known
Water	90 mL/kg (Rat)	None Known	None Known

Chronic Toxicity

Chronic Toxicity Chronic manganese poisoning primarily involves the central nervous system.

Chemical Name	ACGIH	IARC	NTP	OSHA
Manganese sulfate monohydrate	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Manganese sulfate monohydrate	None Known	None Known	None Known
Water	None Known	None Known	None Known

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Manganese sulfate monohydrate	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known

Chemical Name	Log Pow
Manganese sulfate monohydrate	None Known
Water	None Known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with local regulations.

Chemical Name
Manganese sulfate monohydrate - 10034-96-5
Water - 7732-18-5

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Manganese sulfate monohydrate - 10034-96-5	None Known	None Known	None Known	None Known
Water - 7732-18-5	None Known	None Known	None Known	None Known

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Manganese sulfate monohydrate 10034-96-5 (36)	TSCA	DSL	EINECS/ELINCS	ENCS	X	KECL	X	X
Water 7732-18-5 (to 100%)	Present	X	X	ENCS	X	KE-35400	X	X

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product 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	CAS-No	Weight %	SARA 313 - Threshold Values %
Manganese sulfate monohydrate	10034-96-5	36	1.0
Water	7732-18-5	to 100%	None Known

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

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).

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Manganese sulfate monohydrate 10034-96-5 (36)	None Known	None Known	None Known	None Known
Water 7732-18-5 (to 100%)	None Known	None Known	None Known	None Known

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

This product contains the following HAPs: .

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Manganese sulfate monohydrate	10034-96-5	36	Present (includes any unique chemical substance that contains Manganese as part of its infrastructure)	None Known	None Known	None Known
Water	7732-18-5	to 100%	None Known	None Known	None Known	None Known

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Manganese sulfate monohydrate	None Known	None Known
Water	None Known	None Known

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical Name	CAS-No	California Prop. 65
Manganese sulfate monohydrate	10034-96-5	None Known
Water	7732-18-5	None Known

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Manganese sulfate monohydrate	None Known	X	X	X	None Known
Water	None Known	None Known	None Known	None Known	None Known

International Regulations

Mexico - Grade

Chemical Name	Carcinogen Status	Exposure Limits

Manganese sulfate monohydrate	None Known	Mexico: TWA= 0.2 mg/m^3
Water	None Known	None Known

Canada

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

WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol

Prepared By Regulatory Affairs Department

Issuing Date 12/15/2010

Revision Date

Revision Note Initial Release.

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

End of MSDS

Material Safety Data Sheet

Issuing Date 10/8/2012 **Revision Number** 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **SODIUM THIOSULFATE, .025 N**

Product Code(s) 4169

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

Company

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

Emergency Telephone Number

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

2. HAZARDS IDENTIFICATION

Emergency Overview

May cause skin and eye irritation
Large oral doses may cause gastrointestinal irritation

Appearance Colorless **Physical State** Liquid **Odor** None

OSHA Regulatory Status While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Potential Health Effects

Principle Routes of Exposure Skin and eye contact.

Acute Toxicity

Eyes Contact with eyes may cause irritation.
Skin Substance may cause slight skin irritation.
Inhalation Not an expected route of exposure.
Ingestion May cause gastrointestinal discomfort if consumed in large amounts.

Chronic Effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Sodium hydroxide	1310-73-2	<0.1
Thiosulfate, sodium, pentahydrate	10102-17-7	<1
Water	7732-18-5	to 100%

4. FIRST AID MEASURES

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

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If irritation persists or develops, contact a physician.

Skin Contact Wash off with warm water and soap. If skin irritation persists, call a physician.

Inhalation Not expected. Move to fresh air.

Ingestion Drink plenty of water. If symptoms persist or develop contact physician. Never give anything by mouth to an unconscious person.

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

5. FIRE-FIGHTING MEASURES

Flammable Properties Not a fire hazard.
Flash Point Not applicable

Suitable Extinguishing Media Dry chemical, CO_2, alcohol-resistant foam or water spray.
Explosion Data

NFPA	**Health Hazard** 1	**Flammability** 0	**Stability** 0	**Physical and Chemical Hazards** -
HMIS	**Health Hazard** 1	**Flammability** 0	**Stability** 0	

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Refer to Section 8. Avoid contact with skin, eyes, and clothing.

Methods for Cleaning Up If local regulations permit, rinse to drain with excess water. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

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

Storage Keep containers tightly closed in a dry, cool, and well-ventilated place. Store at room temperature. Keep away from direct sunlight. Keep away from heat and incompatibles. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide 1310-73-2	None Known	TWA: 2 mg/m³	IDLH: 10 mg/m³ Ceiling: 2 mg/m³
Thiosulfate, sodium, pentahydrate 10102-17-7	None Known	None Known	None Known
Water 7732-18-5	None Known	None Known	None Known

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields.
Skin and Body Protection Wear protective gloves/clothing.
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

Appearance	Colorless	**Odor**	None
Physical State	Liquid	**pH**	12
Flash Point	Not applicable	**Boiling Point/Range**	ca. 100°C/212°F
Vapor Pressure	<17 mmHg @ 20°C	**Vapor Density**	<1(Air = 1)

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of use and storage.

Incompatible Products Acids.

Conditions to Avoid Excessive heat. Direct sunlight.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium hydroxide	None Known	1350 mg/kg (Rabbit)	None Known
Thiosulfate, sodium, pentahydrate	5000 mg/kg (Rat)	None Known	None Known
Water	90 mL/kg (Rat)	None Known	None Known

Chronic Toxicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium hydroxide	None Known	None Known	None Known	None Known
Thiosulfate, sodium, pentahydrate	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Sodium hydroxide	None Known	None Known	None Known
Thiosulfate, sodium, pentahydrate	None Known	None Known	None Known
Water	None Known	None Known	None Known

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Sodium hydroxide	None Known	LC50= 45.4 mg/L Oncorhynchus mykiss 96 h	None Known	None Known
Thiosulfate, sodium, pentahydrate	None Known	LC50= 24000 mg/L Gambusia affinis 96 h	None Known	None Known
Water	None Known	None Known	None Known	None Known

Chemical Name	Log Pow
Sodium hydroxide	None Known
Thiosulfate, sodium, pentahydrate	None Known
Water	None Known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method 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.

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sodium hydroxide - 1310-73-2	None Known	None Known	None Known	None Known
Thiosulfate, sodium, pentahydrate - 10102-17-7	None Known	None Known	None Known	None Known
Water - 7732-18-5	None Known	None Known	None Known	None Known

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Sodium hydroxide 1310-73-2 (<0.1)	Present	X	X	1-410; 2-1972	X	KE-31487	X	X
Thiosulfate, sodium, pentahydrate 10102-17-7 (<1)	TSCA	X	EINECS/ELINCS	1-503	X	KECL	X	X
Water 7732-18-5 (to 100%)	Present	X	X	ENCS	X	KE-35400	X	X

U.S. Federal Regulations

SARA 313

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

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %

Sodium hydroxide	1310-73-2	<0.1	None Known
Thiosulfate, sodium, pentahydrate	10102-17-7	<1	None Known
Water	7732-18-5	to 100%	None Known

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide 1310-73-2 (<0.1)	None Known	None Known	None Known	None Known
Thiosulfate, sodium, pentahydrate 10102-17-7 (<1)	None Known	None Known	None Known	None Known
Water 7732-18-5 (to 100%)	None Known	None Known	None Known	None Known

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

.

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Sodium hydroxide	1310-73-2	<0.1	None Known	None Known	None Known	None Known
Thiosulfate, sodium, pentahydrate	10102-17-7	<1	None Known	None Known	None Known	None Known
Water	7732-18-5	to 100%	None Known	None Known	None Known	None Known

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Sodium hydroxide	1000 lb	None Known
Thiosulfate, sodium, pentahydrate	None Known	None Known
Water	None Known	None Known

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical Name	CAS-No	California Prop. 65
Sodium hydroxide	1310-73-2	None Known
Thiosulfate, sodium, pentahydrate	10102-17-7	None Known
Water	7732-18-5	None Known

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium hydroxide	X	X	X	None Known	X
Thiosulfate, sodium, pentahydrate	None Known	X	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known	None Known

International Regulations

Mexico - Grade

Chemical Name	Carcinogen Status	Exposure Limits
Sodium hydroxide	None Known	None Known
Thiosulfate, sodium, pentahydrate	None Known	None Known
Water	None Known	None Known

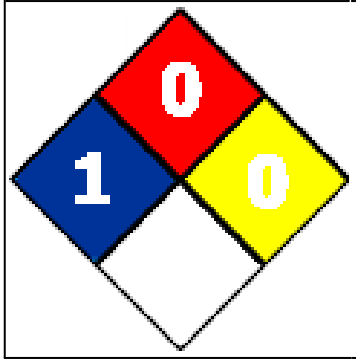
Canada

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

Component	WHMIS Hazard Class
Sodium hydroxide 1310-73-2 (<0.1)	1 % E
Thiosulfate, sodium, pentahydrate 10102-17-7 (<1)	Uncontrolled product according to WHMIS classification criteria
Water 7732-18-5 (to 100%)	Uncontrolled product according to WHMIS classification criteria

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared By Regulatory Affairs Department
Issuing Date 10/8/2012
Revision Date -
Revision Note Initial Release.
Disclaimer

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

End of MSDS

Material Safety Data Sheet

Issuing Date 12/27/2010 **Revision Number** 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **Starch Indicator Solution**

Product Code(s) 4170

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

Company

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

Emergency Telephone Number

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

2. HAZARDS IDENTIFICATION

Emergency Overview

Avoid all unnecessary exposure to the chemical substance and ensure prompt removal from skin, eyes, and clothing
May be harmful if swallowed
May cause eye irritation

Appearance Colorless **Physical State** Liquid **Odor** None

OSHA Regulatory Status

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

Potential Health Effects

Principle Routes of Exposure Skin and eye contact

Acute Toxicity

Eyes Contact with eyes may cause irritation.
Skin No hazard from product as supplied.
Inhalation Not an expected route of exposure.
Ingestion May cause gastrointestinal discomfort if consumed in large amounts.

Chronic Effects Prolonged skin contact may cause skin irritation and/or dermatitis.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Soluble Starch (Amylodextrin)	9005-84-9	0.5
Salicylic acid	69-72-7	0.13
Water	7732-18-5	to 100%

4. FIRST AID MEASURES

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

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If irritation persists or develops, contact a physician.

Skin Contact Wash off with warm water and soap. If skin irritation persists, call a physician.

Inhalation Not expected.

Ingestion 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.

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

5. FIRE-FIGHTING MEASURES

Flammable Properties Not a fire hazard.

Flash Point Not applicable

Suitable Extinguishing Media Dry chemical, CO_2, alcohol-resistant foam or water spray.

Explosion Data

NFPA **Health Hazard** 0 **Flammability** 0 **Stability** 0 **Physical and Chemical Hazards** -

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Refer to Section 8. Avoid contact with skin, eyes, and clothing.

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.. Keep in suitable and closed containers for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

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

Storage Keep containers tightly closed in a dry, cool, and well-ventilated place. Store at room temperature. Keep away from direct sunlight. Keep away from heat and incompatibles. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Soluble Starch (Amylodextrin) 9005-84-9	None Known	None Known	None Known
Salicylic acid 69-72-7	None Known	None Known	None Known
Water 7732-18-5	None Known	None Known	None Known

Personal Protective Equipment

Eye/Face Protection	Safety glasses with side-shields.
Skin and Body Protection	Wear protective gloves/clothing.
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colorless	**Odor**	None
Physical State	Liquid	**pH**	3
Flash Point	Not applicable	**Boiling Point/Range**	ca. 100 °C / 212 °F
Vapor Pressure	<17 mmHg @ 20°C	**Vapor Density**	<1(Air = 1)

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of use and storage.

Incompatible Products Strong oxidizing agents. Iron salts.

Conditions to Avoid Excessive heat. Incompatible products. Direct sunlight.

Hazardous Decomposition Products Carbon monoxide (CO).

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Soluble Starch (Amylodextrin)	None Known	None Known	None Known
Salicylic acid	891 mg/kg (Rat)	2000 mg/kg (Rabbit) 2000 mg/kg (Rat)	0.9 mg/L (Rat) 1 h
Water	90 mL/kg (Rat)	None Known	None Known

Chronic Toxicity

Chronic Toxicity Prolonged skin contact may cause skin irritation and/or dermatitis.

Chemical Name	ACGIH	IARC	NTP	OSHA
Soluble Starch (Amylodextrin)	None Known	None Known	None Known	None Known
Salicylic acid	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Soluble Starch (Amylodextrin)	None Known	None Known	None Known
Salicylic acid	None Known	None Known	None Known
Water	None Known	None Known	None Known

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Soluble Starch (Amylodextrin)	None Known	None Known	None Known	None Known
Salicylic acid	None Known	None Known	EC50 = 138 mg/L 1 h EC50 = 214 mg/L 5 min EC50 = 552 mg/L 1 h EC50 = 78 mg/L 210 min	EC50 = 105 mg/L 24 h
Water	None Known	None Known	None Known	None Known

Chemical Name	Log Pow
Soluble Starch (Amylodextrin)	None Known
Salicylic acid	0 - 2.26 37 °C
Water	None Known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method 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.

Chemical Name
Soluble Starch (Amylodextrin) - 9005-84-9
Salicylic acid - 69-72-7
Water - 7732-18-5

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Soluble Starch (Amylodextrin) - 9005-84-9	None Known	None Known	None Known	None Known
Salicylic acid - 69-72-7	None Known	None Known	None Known	None Known
Water - 7732-18-5	None Known	None Known	None Known	None Known

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Soluble Starch (Amylodextrin) 9005-84-9 (0.5)	XU	X	X	ENCS	X	KE-01773	X	X
Salicylic acid 69-72-7 (0.13)	Present	X	X	3-1640	X	KE-20367	X	X
Water 7732-18-5 (to 100%)	Present	X	X	ENCS	X	KE-35400	X	X

U.S. Federal Regulations

SARA 313

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

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Soluble Starch (Amylodextrin)	9005-84-9	0.5	None Known
Salicylic acid	69-72-7	0.13	None Known
Water	7732-18-5	to 100%	None Known

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

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).

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Soluble Starch (Amylodextrin) 9005-84-9 (0.5)	None Known	None Known	None Known	None Known
Salicylic acid 69-72-7 (0.13)	None Known	None Known	None Known	None Known
Water 7732-18-5 (to 100%)	None Known	None Known	None Known	None Known

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

.

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Soluble Starch (Amylodextrin)	9005-84-9	0.5	None Known	None Known	None Known	None Known
Salicylic acid	69-72-7	0.13	None Known	Group III	None Known	None Known
Water	7732-18-5	to 100%	None Known	None Known	None Known	None Known

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Soluble Starch (Amylodextrin)	None Known	None Known
Salicylic acid	None Known	None Known
Water	None Known	None Known

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical Name	CAS-No	California Prop. 65
Soluble Starch (Amylodextrin)	9005-84-9	None Known
Salicylic acid	69-72-7	None Known
Water	7732-18-5	None Known

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island

Soluble Starch (Amylodextrin)	None Known	None Known	None Known	None Known	None Known
Salicylic acid	None Known	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known	None Known

International Regulations

Mexico - Grade

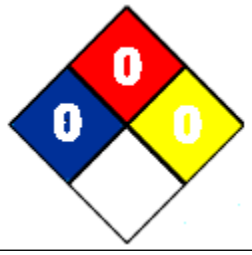
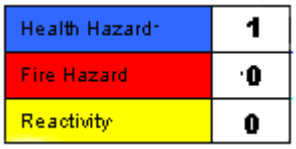
Chemical Name	Carcinogen Status	Exposure Limits
Soluble Starch (Amylodextrin)	None Known	None Known
Salicylic acid	None Known	None Known
Water	None Known	None Known

Canada

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

WHMIS Hazard Class
Non-controlled

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol
			Not regulated

Prepared By Regulatory Affairs Department

Issuing Date 12/27/2010

Revision Date

Revision Note Initial Release.

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

End of MSDS

Material Safety Data Sheet

Issuing Date 2/25/2010 **Revision Number** 0

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **Sulfamic Acid Powder**

Product Code(s) 6286

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

Company

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

Emergency Telephone Number

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

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Corrosive
Causes SEVERE IRRITATION and BURNS to EVERY AREA of contact.
Harmful or fatal if swallowed
May cause lung damage

Appearance White **Physical State** Crystalline **Odor** Odorless

OSHA Regulatory Status This product is an article which contains a chemical substance. Safety information is given for exposure to the article as sold, but considers exposure to the chemical if user has direct eye and skin contact with the chemical.

Potential Health Effects

Principle Routes of Exposure Skin contact, Eye contact, Ingestion, and, Inhalation

Acute Toxicity

Eyes Causes burns. May cause irreversible damage to eyes.

Skin Contact causes severe skin irritation and possible burns.

Inhalation Inhalation of corrosive dusts can be extremely destructive to tissues of the mucous membranes and upper respiratory tract. Can cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea and vomiting. May cause pulmonary edema, a medical emergency. .

Ingestion Ingestion causes burns of the upper digestive and respiratory tract. May be fatal if swallowed.

Chronic Effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula H2NSO3H

Chemical Name	CAS-No	Weight %
Sulfamic acid	5329-14-6	100

4. FIRST AID MEASURES

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

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Seek immediate medical attention/advice.

Skin Contact Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Consult a physician.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a physician immediately.

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

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

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Water spray, dry chemical, carbon dioxide (CO_2), or foam.

Explosion Data

NFPA **Health Hazard** 3 **Flammability** 0 **Stability** 0 **Physical and Chemical Hazards** -

6. ACCIDENTAL RELEASE MEASURES

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

Methods for Cleaning Up Sweep up and shovel into suitable containers for disposal. Avoid dust formation. Keep in suitable and closed containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

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

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfamic acid 5329-14-6	None Established	None Established	None Established

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and Body Protection Wear protective gloves/clothing.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	White	**Odor**	Odorless
Physical State	Crystalline	**pH**	1.2 (1% solution)
Boiling Point/Range	Decomposes		

Water Solubility Soluble in water

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Incompatible Products Strong oxidizing agents. Nitric acid. Chlorine. Solutions are strongly acidic and react violently with bases.

Conditions to Avoid Excessive heat. Incompatible products.

Hazardous Decomposition Products Sulfur oxides. Ammonia. Nitrogen oxides (NOx). Carbon oxides.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sulfamic acid	1450 mg/kg (Rat)	None Established	None Established

Chronic Toxicity

Chemical Name	ACGIH	IARC	NTP	OSHA
Sulfamic acid	None Established	None Established	None Established	None Established

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Sulfamic acid	None Established	None Established	None Established

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Sulfamic acid	None Established	LC50= 70.3 mg/L Pimephales promelas 96 h	None Established	None Established

Chemical Name	Log Pow
Sulfamic acid	None Established

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with local regulations.

Chemical Name
Sulfamic acid - 5329-14-6

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sulfamic acid - 5329-14-6	None Established	None Established	None Established	None Established

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name SULFAMIC ACID
Hazard Class 8
UN-No 2967
Packing Group III
Reportable Quantity (RQ) 12KG

IATA

UN-No 2967
Proper Shipping Name SULFAMIC ACID
Hazard Class 8
Packing Group III

IMDG/IMO

Proper Shipping Name SULFAMIC ACID
Hazard Class 8
UN-No 2967
Packing Group III

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Sulfamic acid 5329-14-6 (100)	Present	X	X	1-402	X	KE-32336	X	X

U.S. Federal Regulations

SARA 313

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

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Sulfamic acid	5329-14-6	100	None 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

Clean Water Act

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfamic acid 5329-14-6 (100)	None Established	None Established	None Established	None Established

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Sulfamic acid	5329-14-6	100	None Established	None Established	None Established	None Established

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Sulfamic acid	None Established	None Established

U.S. State Regulations

Chemical Name	CAS-No	California Prop. 65
Sulfamic acid	5329-14-6	None Established

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sulfamic acid	None Established	X	None Established	None Established	None Established

International Regulations

Mexico - Grade No information available.

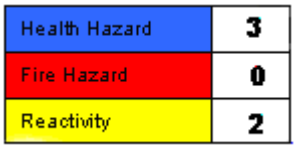
Chemical Name	Carcinogen Status	Exposure Limits
Sulfamic acid	None Established	None Established

Canada

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

WHMIS Hazard Class
E Corrosive material

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol
			

Prepared By	Regulatory Affairs Department
Issuing Date	2/25/2010
Revision Date	
Revision Note	Initial Release.

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End of MSDS

Material Safety Data Sheet

Issuing Date 12/16/2010 **Revision Date** 2/25/2013 **Revision Number** 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name **ALK. POTASSIUM IODIDE AZIDE**

Product Code(s) 7166

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

Company

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

Emergency Telephone Number

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

2. HAZARDS IDENTIFICATION

DANGER! POISON!

Emergency Overview

Corrosive
Liquid and mist can cause severe burns to all body tissue
May be fatal if inhaled or swallowed
Water reactive

Appearance Clear, colorless **Physical State** Liquid **Odor** Odorless

OSHA Regulatory Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). Safety information is given for exposure to the reagent as sold and considers exposure to the chemical if user has direct eye and skin contact.

Potential Health Effects

Principle Routes of Exposure Inhalation, skin contact, and ingestion.

Acute Toxicity

Eyes Corrosive to the eyes and may cause severe damage including blindness.

Skin Corrosive. Contact with skin causes irritation to severe burns. Can cause redness, pain, and severe skin burns. Harmful if absorbed through skin.

Inhalation Poison - may be fatal if inhaled. Inhalation of corrosive mist may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Depending on exposure, the effects from inhalation of corrosive mists can vary from mild irritation to serious damage to respiratory tract.

Ingestion Toxic if swallowed. Corrosive. Can cause immediate pain and burning in the mouth, throat, esphogus and GI tract. May cause nausea, vomiting, and diarrhea, and in severe cases death. Probable lethal dose of Potassium thiocyanate:between 15-30 grams.(100ml of 5116 solution will contain 10grams Potassium thiocyanate).

Chronic Effects Prolonged exposure may cause chronic effects.

Main Symptoms Prolonged contact has a destructive effect on tissue.

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

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
Water	7732-18-5	to 100%
Potassium hydroxide	1310-58-3	70

4. 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 Immediately flush eyes with gentle stream of water for at least 15 minutes, occasionally lifting upper and lower eyelids. Call a physician immediately.

Skin Contact Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Remove and wash contaminated clothing before re-use. Immediate medical attention is required.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.

Ingestion DO NOT INDUCE VOMITING. Drink large quantity of water. Immediate medical attention is required. Never give anything by mouth to an unconscious person.

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

5. FIRE-FIGHTING MEASURES

Flammable Properties Not flammable.

Flash Point Not applicable

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

Specific Hazards Arising from the Chemical
Contact with most metals causes the formation of explosive and flammable hydrogen gas. React vigorously with water.

NFPA	**Health Hazard** 3	**Flammability** 0	**Stability** 1	**Physical and Chemical Hazards** W
HMIS	**Health Hazard** 0	**Flammability** 0	**Stability** 0	

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Ensure adequate ventilation. Avoid contact with skin, eyes, and inhalation of vapors. Use personal protective equipment. Refer to Section 8.

Methods for Containment Soak up with inert absorbent material, containerize, and hold for disposal. Do not flush to sewer.

Methods for Cleaning Up Neutralize spills with acid such as acetic, hydrochloric or sulfuric, absorb with vermiculite or other inert substance, and package in a suitable container for disposal. Prevent product from entering drains.

7. HANDLING AND STORAGE

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

Storage Keep containers tightly closed in a dry, cool, and well-ventilated place. Keep away from heat, moisture, and incompatibles. Keep away from metals and organic halogens. Ensure that leaks or spills cannot reach drains, sewers or surface waters. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium azide 26628-22-8	None Known	None Known	Ceiling: 0.1 ppm Ceiling: 0.3 mg/m^3
Potassium iodide 7681-11-0	TWA: 0.01 ppm	None Known	None Known
Water 7732-18-5	None Known	None Known	None Known
Potassium hydroxide 1310-58-3	None Known	None Known	Ceiling: 2 mg/m^3

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and Body Protection Wear protective gloves/clothing. Gloves & Lab Coat.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Clear, colorless	**Odor**	Odorless
Physical State	Liquid	**pH**	14
Flash Point	Not applicable	**Autoignition Temperature**	Not applicable
Boiling Point/Range	No data available		
Specific Gravity	~1.5 (water = 1)	**Vapor Pressure**	No information available
Vapor Density	No information available		

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions of use and storage.

Incompatible Products Strong acids. Metals. Water-reactive, reacts vigorously with water.

Conditions to Avoid Excessive heat. Incompatible products.

Hazardous Decomposition Products Carbon oxides (COx). Potassium Oxides.

Hazardous Reactions Reacts violently with water. Contact with metals may evolve flammable hydrogen gas.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium azide	27 mg/kg (Rat)	20 mg/kg (Rabbit)	None Known
Potassium iodide	None Known	None Known	None Known
Water	90 mL/kg (Rat)	None Known	None Known
Potassium hydroxide	214 mg/kg (Rat)	None Known	85 mg/L Gambusia affinis 24 hr

Chronic Toxicity

Chronic Toxicity Prolonged exposure may cause chronic effects.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sodium azide	None Known	None Known	None Known	None Known
Potassium iodide	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known
Potassium hydroxide	None Known	None Known	None Known	None Known

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Sodium azide	None Known	None Known	None Known
Potassium iodide	None Known	None Known	None Known
Water	None Known	None Known	None Known
Potassium hydroxide	None Known	None Known	None Known

12. ECOLOGICAL INFORMATION

Ecotoxicity

The material may be toxic to aquatic life.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Sodium azide	None Known	LC50= 0.7 mg/L Lepomis macrochirus 96 h LC50= 0.8 mg/L Oncorhynchus mykiss 96 h LC50= 5.46 mg/L Pimephales promelas 96 h	None Known	None Known
Potassium iodide	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known
Potassium hydroxide	None Known	None Known	None Known	None Known

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	None Known
Potassium iodide	None Known
Water	None Known
Potassium hydroxide	= 0.65 = 0.83

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method Dispose of in accordance with local regulations. Should not be released into the environment.

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Sodium azide - 26628-22-8	None Known	P105	None Known	None Known
Potassium iodide - 7681-11-0	None Known	None Known	None Known	None Known
Water - 7732-18-5	None Known	None Known	None Known	None Known
Potassium hydroxide - 1310-58-3	None Known	None Known	None Known	None Known

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name CORROSIVE LIQUIDS, TOXIC, NOS (Potassium hydroxide/Sodium azide solution)
Hazard Class 8
Subsidiary Class 6.1
UN-No 2922
Packing Group II
Reportable Quantity (RQ) 1000

IATA

UN-No 2922

Proper Shipping Name	CORROSIVE LIQUIDS, TOXIC, NOS (Potassium hydroxide/Sodium azide solution)
Hazard Class	8
Subsidiary Class	6.1
Packing Group	II

IMDG/IMO

Proper Shipping Name	CORROSIVE LIQUIDS, TOXIC, NOS (Potassium hydroxide/Sodium azide solution)
Hazard Class	8
Subsidiary Class	6.1
UN-No	2922
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Sodium azide 26628-22-8 (1.05)	Present	X	X	1-482	X	KE-31357	X	X
Potassium iodide 7681-11-0 (15)	Present	X	X	(1)-439	X	KECL	X	X
Water 7732-18-5 (to 100%)	Present	X	X	ENCS	X	KE-35400	X	X
Potassium hydroxide 1310-58-3 (70)	Present	X	X	1-369	X	KE-29139	X	X

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product 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	CAS-No	Weight %	SARA 313 - Threshold Values %
Sodium azide	26628-22-8	1.05	1.0
Potassium iodide	7681-11-0	15	None Known
Water	7732-18-5	to 100%	None Known
Potassium hydroxide	1310-58-3	70	None Known

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

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).

Component	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium azide 26628-22-8 (1.05)	None Known	None Known	None Known	None Known
Potassium iodide 7681-11-0 (15)	None Known	None Known	None Known	None Known
Water 7732-18-5 (to 100%)	None Known	None Known	None Known	None Known
Potassium hydroxide 1310-58-3 (70)	1000 lb	None Known	None Known	X

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Sodium azide	26628-22-8	1.05	None Known	None Known	None Known	None Known
Potassium iodide	7681-11-0	15	None Known	None Known	None Known	None Known
Water	7732-18-5	to 100%	None Known	None Known	None Known	None Known
Potassium hydroxide	1310-58-3	70	None Known	None Known	None Known	None Known

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Sodium azide	1000 lb	1000 lb
Potassium iodide	None Known	None Known
Water	None Known	None Known
Potassium hydroxide	1000 lb	None Known

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

Chemical Name	CAS-No	California Prop. 65
Sodium azide	26628-22-8	None Known
Potassium iodide	7681-11-0	None Known
Water	7732-18-5	None Known
Potassium hydroxide	1310-58-3	None Known

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Sodium azide	X	X	X	None Known	X
Potassium iodide	None Known	None Known	None Known	None Known	None Known
Water	None Known	None Known	None Known	None Known	None Known
Potassium hydroxide	X	X	X	None Known	X

International Regulations

Mexico - Grade

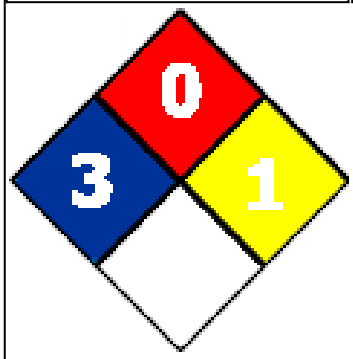
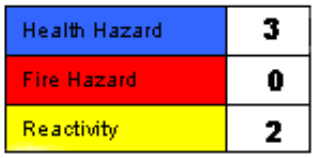
Chemical Name	Carcinogen Status	Exposure Limits
Sodium azide	None Known	None Known
Potassium iodide	None Known	None Known
Water	None Known	None Known
Potassium hydroxide	None Known	None Known

Canada

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

Component	WHMIS Hazard Class
Sodium azide 26628-22-8 (1.05)	1 % D1A
Potassium iodide 7681-11-0 (15)	1 % D2A
Water 7732-18-5 (to 100%)	Uncontrolled product according to WHMIS classification criteria
Potassium hydroxide 1310-58-3 (70)	1 % D1B E

16. OTHER INFORMATION

NFPA	HMIS	PPE	Transport Symbol
			

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Disclaimer

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

End of MSDS