

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

Product identifier

Product name CHROME AZUROL S INDICATOR

Other means of identification

Product Code(s) 3964

Recommended use of the chemical and restrictions on use

Recommended Use 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 dark amber	Physical state liquid	Odor None
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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

4. FIRST AID MEASURES

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. Call a physician immediately.
Skin contact	Wash skin with soap and water. If symptoms persist, call a physician.
Inhalation	Not expected to require first aid measures.
Ingestion	Drink 1 or 2 glasses of water. If gastrointestinal distress occurs contact physician.
<u>Self-protection of the first aider</u>	Use personal protective equipment. 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.
Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

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

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	See section 8.
Environmental precautions	See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
Methods for cleaning up	Soak up with inert absorbent material. 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. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product.
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Conditions for safe storage, including any incompatibilities

Storage	Keep tightly closed in a dry and cool place. Keep away from direct sunlight. Keep out of the reach of children.
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Incompatible Products None known.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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 Protective gloves.

Respiratory protection None required under normal usage.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	None
Appearance	dark amber		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	5	
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	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	Direct sunlight. Excessive heat.
Incompatible materials	None known.
Hazardous decomposition products	None under normal use.

11. TOXICOLOGICAL INFORMATIONInformation on likely routes of exposure

Component Information

Information on toxicological effects

Carcinogenicity Contains no ingredient listed as a carcinogen.

12. ECOLOGICAL INFORMATIONEcotoxicityPersistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

13. DISPOSAL CONSIDERATIONS**Disposal Methods**

Dispose of waste product or used containers according to local regulations. This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging

Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

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

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

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

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

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations

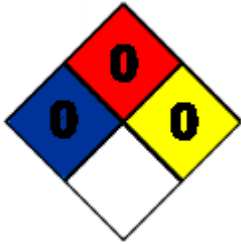
California Proposition 65

U.S. State Right-to-Know Regulations

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

16. OTHER INFORMATION

<u>NFPA</u>	Health hazard 0	Flammability 0	Instability 0	Physical and Chemical Hazards N/A
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Health Hazard	0
Fire Hazard	0
Reactivity	0

Prepared by
Issuing Date
Disclaimer

Regulatory Affairs Department
Jun-01-2015

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

End of Safety Data Sheet

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

Product Code(s) 3964
Product name CHROME AZUROL S INDICATOR

Synonyms none
Substance or Preparation Preparation

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

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

1.3. Details of the supplier of the safety data sheet

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

Contact for timely inquiries in regards to this product:

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

1.4. Emergency telephone number

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

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

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

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

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

Symbol(s)
Not dangerous

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Pictogram(s)

Signal word None

Hazard statements None

2.3. Other hazards

None.

Section 3: COMPOSITION/ INFORMATION OF INGREDIENTS

3.1 Substances

Not Applicable

3.2 Mixtures

Chemical name	EC No	CAS No	Weight-%	Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No
Chrome Azurol S	-	1667-99-3	<0.1	-	No data available	-
Water	EEC No. Present	7732-18-5	to 100%	-	No data available	-

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

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Do not get in eyes, on skin, or on clothing.
Inhalation	Not expected to require first aid measures.
Skin contact	Wash skin with soap and water. If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately.
Ingestion	Drink 1 or 2 glasses of water. If gastrointestinal distress occurs contact physician.
Self-protection of the first aider	Use personal protective equipment. 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.

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

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

No data available

Section 5: FIREFIGHTER MEASURES

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

No information available

5.3. Advice for firefighters

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

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

See section 8.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

Methods for cleaning up

Soak up with inert absorbent material. After cleaning, flush away traces with water.

6.4. Reference to other sections

For disposal see section 13.

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

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

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

Hygiene Measures

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

7.2. Conditions for safe storage, including any incompatibilities

Storage

Keep tightly closed in a dry and cool place. Keep away from direct sunlight. Keep out of the reach of children.

7.3. Specific end use(s)

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

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1. Control parameters

Chemical name	Eu	The United Kingdom	France	Spain	Germany
Chrome Azurol S 1667-99-3	Not Established	Not Established	Not Established	-	-
Water 7732-18-5	Not Established	Not Established	Not Established	-	-

Chemical name	Italy	Portugal	The Netherlands	Finland	Denmark
Chrome Azurol S 1667-99-3	-	Not Established	-	Not Established	Not Established
Water 7732-18-5	-	Not Established	-	Not Established	Not Established
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Chrome Azurol S 1667-99-3	-	Not Established	Not Established	Not Established	Not Established
Water 7732-18-5	-	Not Established	Not Established	Not Established	Not Established

Chemical name	European Union	United Kingdom	France	Spain	Germany
Chrome Azurol S 1667-99-3	-	-	-	-	-
Water 7732-18-5	-	-	-	-	-
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Chrome Azurol S 1667-99-3	-	-	-	-	-
Water 7732-18-5	-	-	-	-	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Chrome Azurol S 1667-99-3	-	-	-	-	-
Water 7732-18-5	-	-	-	-	-

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

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

Environmental exposure controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	liquid	Odor	None
Appearance	dark amber		
Property	Values	Remarks • Method	
pH	5		
Melting point / freezing point		No information available	
Boiling point / boiling range		No information available	
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Flammability Limit in Air			
Upper flammability limit:		Not applicable	
Lower flammability limit:		Not applicable	
Vapor pressure		No information available	
Vapor density		No information available	
Specific gravity		No information available	
Water solubility		No information available	
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature		No information available	

Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available
9.2. Other information	
Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions of use and storage.

10.3. Possibility of hazardous reactions

Hazardous polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

10.4. Conditions to avoid

Direct sunlight. Excessive heat.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

None under normal use.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information	Product does not present an acute toxicity hazard based on known or supplied information.
Inhalation	There is no data available for this product.
Eye contact	There is no data available for this product.
Skin contact	There is no data available for this product.
Ingestion	There is no data available for this product.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)		

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation	No information available.
Sensitization	No information available.
Mutagenic effects	No information available.
Carcinogenic effects	No information available.
Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Chrome Azurol S	Not Established	Not Established	Not Established
Water	Not Established	Not Established	Not Established

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical name	Log Pow
Chrome Azurol S	Not Established
Water	Not Established

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

Chemical name	PBT and vPvB assessment
Chrome Azurol S	-
Water	-

12.6. Other adverse effects

No information available

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Chrome Azurol S	Not Established	Not Established	Not Established
Water	Not Established	Not Established	Not Established

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products	Dispose of waste product or used containers according to local regulations.
Contaminated packaging	Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1	
14.2 Proper shipping name	NOT REGULATED BY IMDG/IMO
14.3	
14.4	

ICAO

14.1	
14.2 Proper shipping name	Not Regulated
14.3	
14.4	
14.5	
14.6	

IATA

14.1	
14.2 Proper shipping name	Not Regulated
14.3	
14.4	
14.5	
14.6	

Section 15: REGULATORY INFORMATION

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

Chemical name	French RG number	Title
Chrome Azurol S (CAS # 1667-99-3)	-	-
Water (CAS # 7732-18-5)	-	-

Germany

European Union

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

International Inventories

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

AICS Does not comply

Legend:

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

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

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

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

No information available

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

Prepared by Regulatory Affairs Department

Issuing Date Jun-01-2015

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

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

Disclaimer

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

End of Safety Data Sheet

Issuing Date 12/9/2010

Revision date 12/20/2013

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product name CHROME AZUROL S INDICATOR
Product Code(s) 3964
Synonyms none
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
EMERGENCY OVERVIEW

The product contains no substances which at their given concentration are considered to be hazardous to health
Appearance dark amber **Physical state** liquid **Odor** None

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

Potential health effects
Principle Routes of Exposure Skin Contact.

Acute toxicity
Eyes May cause slight irritation.
Skin Substance may cause slight skin irritation.
Inhalation Not an expected route of exposure.
Ingestion Not an expected route of exposure.

Chronic effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-No	Weight %
Chrome Azurol S	1667-99-3	<0.1
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 skin with soap and water. If irritation develops or persists, consult physician.
Inhalation	Not expected to require first aid measures.
Ingestion	Drink 1 or 2 glasses of water. If gastrointestinal distress occurs contact physician.
Notes to Physician	Treat symptomatically.
Protection of First-aiders	Use personal protective equipment. 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.

NFPA	Health hazard 0	flammability 0	Stability 0	Physical and Chemical Hazards -
HMIS	Health hazard 0	flammability 0	Stability 0	

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Refer to Section 8.
Methods for containment	Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.
Methods for cleaning up	Soak up with inert absorbent material. 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 tightly closed in a dry and cool place. Keep away from direct sunlight. Keep out of the reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Chrome Azurol S 1667-99-3	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 Protective gloves.
Respiratory protection None required under normal usage.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance dark amber
Physical state liquid
Flash point **Odor** None
pH 5
Not Applicable

Explosion Limits

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 None known.

Conditions to avoid Direct sunlight. Excessive heat.

Hazardous decomposition products None under normal use.

Hazardous polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Chrome Azurol S	None known	None known	None known
Water	90 mL/kg (Rat)	None known	None known

Chronic toxicity

Carcinogenicity Contains no ingredient listed as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Chrome Azurol S	None known	None known	None known	None known
Water	None known	None known	None known	None known

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Chrome Azurol S	None known	None known	None known
Water	None known	None known	None known

12. ECOLOGICAL INFORMATION

Ecotoxicity

No information available.

Chemical name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Chrome Azurol S	None known	None known	None known	None known
Water	None known	None known	None known	None known

Persistence and degradability No information available.

Bioaccumulation/Accumulation No information available.

Chemical name	Log Pow
Chrome Azurol S	None known
Water	None known

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method

Dispose of in accordance with local regulations. This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Chrome Azurol S - 1667-99-3	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
Chrome Azurol S 1667-99-3 (<0.1)	TSCA	DSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
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 %
Chrome Azurol S	1667-99-3	<0.1	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
Chrome Azurol S 1667-99-3 (<0.1)	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)

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

Chemical name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depleters	Class 2 Ozone Depleters
Chrome Azurol S	1667-99-3	<0.1	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	CERCLA/SARA RQ
Chrome Azurol S	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
Chrome Azurol S	1667-99-3	None known
Water	7732-18-5	None known

Chemical name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Chrome Azurol S	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

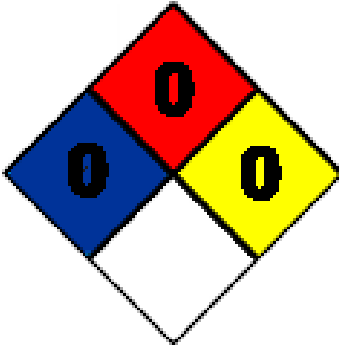

Chemical name	Carcinogen Status	Exposure Limits
Chrome Azurol S	None known	None known
Water	None known	None known

CANADA

Component	WHMIS Hazard Class

Chrome Azurol S 1667-99-3 (<0.1)	Not Determined
Water 7732-18-5 (to 100%)	Uncontrolled product according to WHMIS classification criteria

16. OTHER INFORMATION

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

<p>Prepared by Issuing Date Revision date Revision note</p>	<p>Regulatory Affairs Department 12/9/2010 20-Dec-2013 (M)SDS sections updated. 1. MSDS was reviewed per Canada request - Canada requires MSDS to be dated within 3 years of the request.</p>
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Disclaimer
The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS

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

Product identifier

Product name Hydrochloric Acid 0.1N

Other means of identification

Product Code(s) 6323

UN-No 1789

Recommended use of the chemical and restrictions on use

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

Details of the supplier of the safety data sheet

Manufacturer Address

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

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW

DANGER

Hazard statements

Causes severe skin burns and eye damage.



Appearance Clear, colorless

Physical state liquid

Odor Odorless

Precautionary Statements - Prevention

Do not taste or swallow. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Keep out of the reach of children.

Precautionary Statements - Response

Immediately call a POISON CENTER or physician.

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

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

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

IF SWALLOWED Rinse mouth Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula Concentrations are percent by weight

Chemical name	CAS No	Weight-%
Hydrochloric acid	7647-01-0	<0.4
Water	7732-18-5	to 100%

4. FIRST AID MEASURES

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. Wash skin with soap and water. Consult a physician.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel.
Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water. Consult a physician.
<u>Self-protection of the first aider</u>	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. FIRE-FIGHTING MEASURES

Suitable extinguishing media

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

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protection recommended in Section 8. Avoid breathing vapors or mists. Avoid

contact with skin, eyes or clothing.

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Absorb/Cover spill with sodium bicarbonate or sodium carbonate to neutralize, then place in a chemical waste container for later disposal. Dispose according to local regulations, if permitted dissolve in water and rinse to drain.

Methods for cleaning up 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. 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 strong bases or metals. Keep out of the reach of children.

Incompatible Products Strong bases. Metals. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	Ceiling 5 ppm (7mg/m ³)	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³
Water 7732-18-5	-	-	Not Established

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). If splashes are likely to occur, Face protection shield.

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

Information on basic physical and chemical properties

Physical state	liquid	Odor	Odorless
Appearance	Clear, colorless		
Property	Values	Remarks • Method	
pH	1.1	No information available	
Melting point / freezing point	No information available		
Boiling point / boiling range	100° - 103°C (212° - 217.4°F)		
Flash point	No information available		
Evaporation rate			
Flammability (solid, gas)	No information available		
Flammability Limit in Air			
Upper flammability limit:	No information available		
Lower flammability limit:	No information available		
Vapor pressure	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 products.
Incompatible materials	Strong bases. Metals. Strong oxidizing agents.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions - . Hydrogen chloride gas.

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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrochloric acid 7647-01-0	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 1.68 mg/L (Rat) 1 h
Water 7732-18-5	> 90 mL/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Hydrochloric acid 7647-01-0	Not Established	Group 3	Not Established	Not Established
Water 7732-18-5	Not Established	Not Established	Not Established	Not Established

ATEmix (oral) 23800
 ATEmix (inhalation-dust/mist) 143.1 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Hydrochloric acid 7647-01-0	Not Established	282: 96 h Gambusia affinis mg/L LC50 static	Not Established
Water 7732-18-5	Not Established	Not Established	Not Established

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
Hydrochloric acid 7647-01-0	Not Established
Water 7732-18-5	Not Established

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.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Hydrochloric acid 7647-01-0	Not Established	-	Not Established	Not Established
Water 7732-18-5	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Hydrochloric acid 7647-01-0	Not Established	Not Established	Not Established	Not Established
Water 7732-18-5	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Hydrochloric acid 7647-01-0	-
Water 7732-18-5	-

14. TRANSPORT INFORMATION

DOT

Proper shipping name HYDROCHLORIC ACID SOLUTION
 UN-No 1789
 Hazard Class 8
 Packing group III
 Reportable Quantity (RQ) 5000

IATA

Proper shipping name HYDROCHLORIC ACID SOLUTION
 UN-No 1789
 Hazard Class 8
 Packing group III

IMDG/IMO

Proper shipping name HYDROCHLORIC ACID SOLUTION
 UN-No 1789
 Hazard Class 8
 Packing group III

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 %
Hydrochloric acid 7647-01-0	1.0
Water 7732-18-5	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	No

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

Hydrochloric acid 7647-01-0	5000 lb	Not Established	Not Established	X
Water 7732-18-5	Not Established	Not Established	Not Established	Not Established

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
Hydrochloric acid 7647-01-0	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ
Water 7732-18-5	-	Not Established	-

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

Chemical name	California Proposition 65
Hydrochloric acid 7647-01-0	Not Established
Water 7732-18-5	Not Established

U.S. State Right-to-Know Regulations

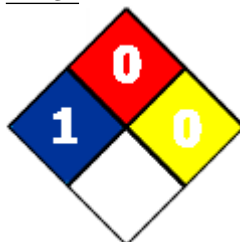
Chemical name	New Jersey	Massachusetts	Pennsylvania
Hydrochloric acid 7647-01-0	X	X	X
Water 7732-18-5	Not Established	Not Established	X

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances
Hydrochloric acid 7647-01-0	Add POISON to label, 16 CFR 1500.129 ($\geq 10\%$, free or chemically unneutralized)

16. OTHER INFORMATION

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



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by Regulatory Affairs Department
 Issuing Date Feb-11-2015
 Revision Date Sep-23-2015
 Reason for revision (M)SDS sections updated 3
Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage,

transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Material Safety Data Sheet

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

Product Code(s) 6323
Product name Hydrochloric Acid 0.1N

REACH registration number A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration
Substance or Preparation Preparation
Formula HCl in water

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

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

1.3. Details of the supplier of the safety data sheet

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

Contact for timely inquiries in regards to this product:

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

1.4. Emergency telephone number

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

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

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

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

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

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

Symbol(s)
C - Corrosive

R-code(s)
C;R35

2.2. Label elements**Pictogram(s)****Signal word** DANGER**Hazard statements** H314 - Causes severe skin burns and eye damage**Precautionary Statements - EU (§28, 1272/2008)**

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

2.3. Other hazards

None

Section 3: COMPOSITION/ INFORMATION OF INGREDIENTS**3.1 Substances**

Not Applicable

3.2 Mixtures

Chemical name	EC No	CAS No	Weight-%	Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No
Hydrochloric acid	EEC No. Present	7647-01-0	<0.4	T; R23 C; R35 C; R34 Xi; R37	Acute Tox. 3 (H331) Skin Corr. 1A (H314) Press. Gas	-

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

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice	Do not get in eyes, on skin, or on clothing.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes while removing all contaminated clothing and shoes. Wash skin with soap and water. Consult a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Ingestion	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Clean mouth with water. Consult a physician.
Self-protection of the first aider	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.

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

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

No data available

Section 5: FIREFIGHTER MEASURES**5.1. Extinguishing media****Suitable extinguishing media**

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

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

No information available

5.3. Advice for firefighters

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

Section 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures****Personal precautions**

Use personal protection recommended in Section 8. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

See Section 12 for additional Ecological Information.

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

Absorb/Cover spill with sodium bicarbonate or sodium carbonate to neutralize, then place in a chemical waste container for later disposal. Dispose according to local regulations, if permitted dissolve in water and rinse to drain.

Methods for cleaning up

After cleaning, flush away traces with water.

6.4. Reference to other sections

For disposal see section 13.

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

Section 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Handling

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from strong bases or metals. Keep out of the reach of children.

7.3. Specific end use(s)

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

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**8.1. Control parameters**

Chemical name	Eu	The United Kingdom	France	Spain	Germany
Hydrochloric acid 7647-01-0	Not Established	Not Established	STEL: 5 ppm STEL: 7.6 mg/m ³	-	TWA: 2 ppm TWA: 3.0 mg/m ³ Ceiling / Peak: 4 ppm Ceiling / Peak: 6 mg/m ³ TWA: 3 mg/m ³
Chemical name	Italy	Portugal	The Netherlands	Finland	Denmark
Hydrochloric acid 7647-01-0	-	Not Established	-	Not Established	Not Established
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Hydrochloric acid 7647-01-0	-	STEL: 4 ppm STEL: 6 mg/m ³	Not Established	Not Established	Not Established

Chemical name	European Union	United Kingdom	France	Spain	Germany
Hydrochloric acid 7647-01-0	-	-	-	-	-
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Hydrochloric acid 7647-01-0	-	-	-	-	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Hydrochloric acid 7647-01-0	-	-	-	-	-

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls**Engineering Measures**

Showers
Eyewash stations
Ventilation systems

Personal protective equipment**Eye/Face Protection**

Wear safety glasses with side shields (or goggles). If splashes are likely to occur. Face protection shield.

Skin and body protection

Long sleeved clothing.

Environmental exposure controls

No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	liquid	Odor	Odorless
Appearance	Clear, colorless		
Property	Values	Remarks • Method	
pH	1.1	No information available	
Melting point / freezing point		No information available	
Boiling point / boiling range	100° - 103°C (212° - 217.4°F)	No information available	
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Flammability Limit in Air			
Upper flammability limit:		Not applicable	
Lower flammability limit:		Not applicable	
Vapor pressure		No information available	
Vapor density		No information available	
Specific gravity		No information available	
Water solubility		No information available	
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Kinematic viscosity		No information available	
Dynamic viscosity		No information available	
Explosive properties	No information available		
Oxidizing properties	No information available		

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

None under normal processing.

10.4. Conditions to avoid

Excessive heat. Incompatible products.

10.5. Incompatible materials

Strong bases. Metals. Strong oxidizing agents.

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions -. Hydrogen chloride gas.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity

Product Information

Inhalation

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

Eye contact

There is no data available for this product.

Skin contact

There is no data available for this product.

Ingestion

There is no data available for this product.

There is no data available for this product.

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

ATEmix (inhalation-dust/mist) 143.14 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrochloric acid	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 1.68 mg/L (Rat) 1 h

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Sensitization No information available.

Mutagenic effects No information available.

Carcinogenic effects No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Hydrochloric acid	Not Established	282: 96 h Gambusia affinis mg/L LC50 static	Not Established

12.2. Persistence and degradability

No product level data available.

12.3. Bioaccumulative potential

No information available.

Chemical name	Log Pow
Hydrochloric acid	Not Established

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

Chemical name	PBT and vPvB assessment
Hydrochloric acid	-

12.6. Other adverse effects

No information available

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Hydrochloric acid	Not Established	Not Established	Not Established

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products Dispose of waste product or used containers according to local regulations.

Contaminated packaging Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1 UN-No 1789
 14.2 Proper shipping name HYDROCHLORIC ACID, SOLUTION
 14.3 Hazard Class 8
 14.4 Packing group III

ICAO

14.1 UN-No 1789
 14.2 Proper shipping name HYDROCHLORIC ACID SOLUTION
 14.3 Hazard Class 8
 14.4 Packing group III
 14.5
 14.6

IATA

14.1 UN-No 1789
 14.2 Proper shipping name HYDROCHLORIC ACID SOLUTION
 14.3 Hazard Class 8
 14.4 Packing group III
 14.5
 14.6

Section 15: REGULATORY INFORMATION

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

Chemical name	French RG number	Title
Hydrochloric acid (CAS # 7647-01-0)	-	-

Germany None

Water contaminating class
(Netherlands) None

Switzerland Poison Classification None

European Union None

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

15.2. Chemical safety assessment

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

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

R34 - Causes burns

R35 - Causes severe burns

R23 - Toxic by inhalation

R37 - Irritating to respiratory system

Full text of H-Statements referred to under section 3

H331 - Toxic if inhaled

H314 - Causes severe skin burns and eye damage

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

Prepared by Regulatory Affairs Department

Issuing Date Oct-22-2015

Revision Date Jan-26-2016

Reason for revision (M)SDS sections updated, 14, 11, 12.

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

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

Disclaimer

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

End of Safety Data Sheet

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

Product identifier

Product name Hydrochloric Acid 1N

Other means of identification

Product Code(s) 6130
UN-No 1789

Recommended use of the chemical and restrictions on use

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

Details of the supplier of the safety data sheet

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

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW

DANGER

Hazard statements

Causes severe skin burns and eye damage.



Appearance Clear, colorless

Physical state liquid

Odor pungent

Precautionary Statements - Prevention

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

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician.

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

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
IF SWALLOWED, Rinse mouth, Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Hydrochloric acid	7647-01-0	<4

4. FIRST AID MEASURES**First Aid Measures**

Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Call a physician immediately.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. Call a physician immediately.
Ingestion	Do NOT induce vomiting. Call a physician immediately. Drink plenty of water. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protection recommended in Section 8.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

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

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

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

Methods and material for containment and cleaning up

Methods for containment 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 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. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product. 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. Store at room temperature. Keep away from direct sunlight. Store away from incompatible materials. Keep out of the reach of children. Keep away from incompatible materials such as cyanides or sulfides. Store away from strong bases or metals. Do not store near combustible materials.

Incompatible Products Strong bases. Metals. Strong reducing agents. Alkalis.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	Ceiling 5 ppm (7mg/m ³)	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³

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 Impervious clothing. Protective gloves. Nitrile rubber. 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

Information on basic physical and chemical properties

Physical state liquid
Appearance Clear, colorless
Odor pungent

Property Values Remarks • Method

pH
Melting point / freezing point No information available
Boiling point / boiling range 100 °C / 212 °F
Flash point No information available

Evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	No information available
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
Water solubility	Soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Incompatible products. Direct sunlight.
Incompatible materials	Strong bases. Metals. Strong reducing agents. Alkalis.
Hazardous decomposition products	Chlorine gas. Hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

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

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrochloric acid 7647-01-0	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 1.68 mg/L (Rat) 1 h

Information on toxicological effects

Sensitization No information available

Chemical name	ACGIH	IARC	NTP	OSHA
Hydrochloric acid 7647-01-0	-	Group 3	Not Established	-

IARC (International Agency for Research on Cancer)

Group 3 - Not classifiable as to its carcinogenicity to humans

Chronic toxicity Chronic exposure to corrosive mists or vapors may cause erosion of the teeth.

ATEmix (oral)	5950
ATEmix (inhalation-dust/mist)	12.5 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)

Hydrochloric acid 7647-01-0	Not Established	282: 96 h Gambusia affinis mg/L LC50 static	Not Established
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Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
Hydrochloric acid 7647-01-0	Not Established

13. DISPOSAL CONSIDERATIONS**Disposal Methods**

Dispose of contents/containers in accordance with local regulations. 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.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Hydrochloric acid 7647-01-0	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Hydrochloric acid 7647-01-0	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Hydrochloric acid 7647-01-0	-

14. TRANSPORT INFORMATION**DOT**

Proper shipping name HYDROCHLORIC ACID SOLUTION
 UN-No 1789
 Hazard Class 8
 Packing group III
 Reportable Quantity (RQ) 5000

UN-No 1789
 Proper shipping name HYDROCHLORIC ACID SOLUTION
 Hazard Class 8
 Packing group III

IATA

Proper shipping name HYDROCHLORIC ACID SOLUTION
 UN-No 1789
 Proper shipping name HYDROCHLORIC ACID SOLUTION
 Hazard Class 8
 Packing group III

IMDG/IMO

Proper shipping name HYDROCHLORIC ACID SOLUTION
 UN-No 1789

Proper shipping name HYDROCHLORIC ACID, SOLUTION
 Hazard Class 8
 Packing group III

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 %
Hydrochloric acid 7647-01-0	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 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
Hydrochloric acid 7647-01-0	5000 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
Hydrochloric acid 7647-01-0	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

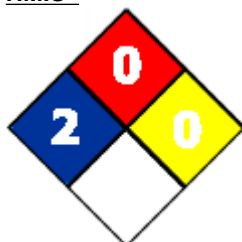
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Hydrochloric acid 7647-01-0	X	X	X

16. OTHER INFORMATION

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



Health Hazard	2
Fire Hazard	0
Reactivity	1

Prepared by Regulatory Affairs Department
Issuing Date May-11-2015
Revision Date May-11-2015
Reason for revision New US GHS format

Disclaimer

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

End of Material Safety Data Sheet

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

Product Code(s) 6130
Product name Hydrochloric Acid 1N

REACH registration number A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration
Substance or Preparation Formula Preparation
HCl in water

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

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

1.3. Details of the supplier of the safety data sheet

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

Contact for timely inquiries in regards to this product:

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

1.4. Emergency telephone number

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

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

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

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

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

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

Symbol(s)
C - Corrosive

R-code(s)
Xn;R20 - C;R35

2.2. Label elements**Pictogram(s)**

Signal word DANGER

Hazard statements H314 - Causes severe skin burns and eye damage

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

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

2.3. Other hazards

May be harmful if swallowed.

Section 3: COMPOSITION/ INFORMATION OF INGREDIENTS

3.1 Substances

Not Applicable

3.2 Mixtures

Chemical name	EC No	CAS No	Weight-%	Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No
Hydrochloric acid	EEC No. Present	7647-01-0	4	T; R23 C; R35 C; R34 Xi; R37	Acute Tox. 3 (H331) Skin Corr. 1A (H314) Press. Gas	-

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

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. Call a physician immediately.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Call a physician immediately.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.
Ingestion	Do NOT induce vomiting. Call a physician immediately. Drink plenty of water. Never give

anything by mouth to an unconscious person.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protection recommended in Section 8.

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

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

No data available

Section 5: FIREFIGHTER MEASURES

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

No information available

5.3. Advice for firefighters

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

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid breathing vapors or mists. Avoid contact with skin, eyes or clothing.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment

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

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.

6.4. Reference to other sections

For disposal see section 13.

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

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

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

Keep containers tightly closed in a dry, cool and well-ventilated place. Store at room temperature. Keep away from direct sunlight. Store away from incompatible materials. Keep out of the reach of children. Keep away from incompatible materials such as cyanides or sulfides. Store away from strong bases or metals. Do not store near combustible materials.

7.3. Specific end use(s)

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

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**8.1. Control parameters**

Chemical name	Eu	The United Kingdom	France	Spain	Germany
Hydrochloric acid 7647-01-0	Not Established	Not Established	STEL: 5 ppm STEL: 7.6 mg/m ³	-	TWA: 2 ppm TWA: 3.0 mg/m ³ Ceiling / Peak: 4 ppm Ceiling / Peak: 6 mg/m ³ TWA: 3 mg/m ³
Chemical name	Italy	Portugal	The Netherlands	Finland	Denmark
Hydrochloric acid 7647-01-0	-	Not Established	-	Not Established	Not Established
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Hydrochloric acid 7647-01-0	-	STEL: 4 ppm STEL: 6 mg/m ³	Not Established	Not Established	Not Established

Chemical name	European Union	United Kingdom	France	Spain	Germany
Hydrochloric acid 7647-01-0	-	-	-	-	-
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Hydrochloric acid 7647-01-0	-	-	-	-	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Hydrochloric acid 7647-01-0	-	-	-	-	-

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls**Engineering Measures**

Ensure adequate ventilation, especially in confined areas

Personal protective equipment**Eye/Face Protection**

Wear safety glasses with side shields (or goggles).

Hand protection

Rubber gloves. Nitrile rubber.

Skin and body protection

Impervious clothing. Protective gloves. Nitrile rubber.

Environmental exposure

No information available.

controls

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	liquid	Odor	pungent
Appearance	Clear, colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No information available
Melting point / freezing point		No information available
Boiling point / boiling range	100 °C / 212 °F	No information available
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		
Upper flammability limit:		Not applicable
Lower flammability limit:		Not applicable
Vapor pressure		No information available
Vapor density		No information available
Specific gravity	~1	No information available
Water solubility	Soluble in water	No information available
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties	No information available	
Oxidizing properties	No information available	

9.2. Other information

Softening point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Density	No information available	
Bulk density	No information available	

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization
Hazardous polymerization does not occur.

Hazardous Reactions
None under normal processing.

10.4. Conditions to avoid

Incompatible products. Direct sunlight.

10.5. Incompatible materials

Strong bases. Metals. Strong reducing agents. Alkalis.

10.6. Hazardous decomposition products

Chlorine gas. Hydrogen chloride.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Acute toxicity****Product Information****Inhalation****Eye contact****Skin contact****Ingestion**

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

There is no data available for this product.

There is no data available for this product.

There is no data available for this product.

There is no data available for this product.

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

ATEmix (oral) 5,950.00 mg/kg

ATEmix (inhalation-dust/mist) 12.53 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Hydrochloric acid	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 1.68 mg/L (Rat) 1 h

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Sensitization No information available.

Mutagenic effects No information available.

Carcinogenic effects No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION**12.1. Toxicity**

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Hydrochloric acid	Not Established	282: 96 h Gambusia affinis mg/L LC50 static	Not Established

12.2. Persistence and degradability

No product level data available.

12.3. Bioaccumulative potential

No information available.

Chemical name	Log Pow
Hydrochloric acid	Not Established

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

Chemical name	PBT and vPvB assessment
Hydrochloric acid	-

12.6. Other adverse effects

No information available

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Hydrochloric acid	Not Established	Not Established	Not Established

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of waste product or used containers according to local regulations.

Contaminated packaging Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION**IMDG/IMO**

14.1 UN-No 1789
 14.2 Proper shipping name HYDROCHLORIC ACID, SOLUTION
 14.3 Hazard Class 8
 14.4 Packing group III

ICAO

14.1 UN-No 1789
 14.2 Proper shipping name HYDROCHLORIC ACID SOLUTION
 14.3 Hazard Class 8
 14.4 Packing group III
 14.5
 14.6

IATA

14.1 UN-No 1789
 14.2 Proper shipping name HYDROCHLORIC ACID SOLUTION
 14.3 Hazard Class 8
 14.4 Packing group III
 14.5
 14.6

Section 15: REGULATORY INFORMATION

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

Chemical name	French RG number	Title
Hydrochloric acid (CAS # 7647-01-0)	-	-

Germany None

**Water contaminating class
(Netherlands)** None

Switzerland Poison Classification None

European Union None

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

15.2. Chemical safety assessment

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

Section 16: ANY OTHER RELEVANT INFORMATION

Key or legend to abbreviations and acronyms used in the safety data sheet

Text of R phrases mentioned in Section 3

R34 - Causes burns

R35 - Causes severe burns

R23 - Toxic by inhalation

R37 - Irritating to respiratory system

R20 - Harmful by inhalation

Full text of H-Statements referred to under section 3

H331 - Toxic if inhaled

H314 - Causes severe skin burns and eye damage

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

Prepared by Regulatory Affairs Department

Issuing Date May-11-2015

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

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

Disclaimer

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

End of Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING**Product identifier****Product name** ORGANIC PHOSPHATE BUFFER**Other means of identification****Product Code(s)** 2844**Recommended use of the chemical and restrictions on use****Recommended Use** Laboratory chemicals. Industrial (not for food or food contact use). Use as a laboratory reagent.**Details of the supplier of the safety data sheet****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** Clear, colorless**Physical state** liquid**Odor** pungent**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.

Other Hazards

May be harmful in contact with skin

3. COMPOSITION/INFORMATION ON INGREDIENTS*

Chemical name	CAS No	Weight-%
Hydrochloric acid	7647-01-0	<0.1
Toluene	108-88-3	0.05
Potassium acid phthalate	877-24-7	1

4. FIRST AID MEASURES**First Aid Measures**

Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek immediate medical attention/advice.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. Take off contaminated clothing and wash before reuse. Call a physician immediately.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Give artificial respiration if victim is not breathing. Call a physician immediately.
Ingestion	Do NOT induce vomiting. Call a physician immediately. Drink plenty of water. Never give anything by mouth to an unconscious person.
<u>Self-protection of the first aider</u>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protection recommended in Section 8.

5. FIREFIGHTING MEASURES**Suitable extinguishing media**

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

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

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

Methods and material for containment and cleaning up

Methods for containment	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	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. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product. 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. Store at room temperature. Keep away from direct sunlight. Store away from incompatible materials. Keep out of the reach of children. Keep away from incompatible materials such as cyanides or sulfides. Store away from strong bases or metals. Do not store near combustible materials.

Incompatible Products None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Hydrochloric acid 7647-01-0	Ceiling: 2 ppm	Ceiling 5 ppm (7mg/m ³)	IDLH: 50 ppm Ceiling: 5 ppm Ceiling: 7 mg/m ³
Toluene 108-88-3	TWA: 20 ppm	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m ³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m ³ Ceiling: 300 ppm	IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³
Potassium acid phthalate 877-24-7	-	-	Not Established

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 Impervious clothing. Protective gloves. Nitrile rubber. 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

Information on basic physical and chemical properties

Physical state liquid
Appearance Clear, colorless
Odor pungent

Property	Values	Remarks • Method
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	~1
Water solubility	Soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available

Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Incompatible products.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	

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

Chemical name	ATEmix (oral)	ATEmix (dermal)	Inhalation LC50
Hydrochloric acid 7647-01-0	238 - 277 mg/kg (Rat)	> 5010 mg/kg (Rabbit)	= 1.68 mg/L (Rat) 1 h
Toluene 108-88-3	= 2600 mg/kg (Rat)	= 12000 mg/kg (Rabbit)	= 12.5 mg/L (Rat) 4 h
Potassium acid phthalate 877-24-7	> 3200 mg/kg (Rat)	Not Established	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Hydrochloric acid 7647-01-0	Not Established	Group 3	Not Established	X
Toluene 108-88-3	Not Established	Group 3	Not Established	Not Established
Potassium acid phthalate 877-24-7	Not Established	Not Established	Not Established	Not Established

*IARC (International Agency for Research on Cancer)
Group 3 - Not classifiable as to its carcinogenicity to humans*

Chronic toxicity	Chronic exposure to corrosive mists or vapors may cause erosion of the teeth. mg/kg mg/l
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12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Hydrochloric acid 7647-01-0	Not Established	282: 96 h <i>Gambusia affinis</i> mg/L LC50 static	Not Established
Toluene 108-88-3	12.5: 72 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50 static 433: 96 h <i>Pseudokirchneriella subcapitata</i> mg/L EC50	11.0 - 15.0: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 14.1 - 17.16: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 15.22 - 19.05: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through 5.89 - 7.81: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 50.87 - 70.34: 96 h <i>Poecilia reticulata</i> mg/L LC50 static 12.6: 96 h <i>Pimephales promelas</i> mg/L LC50 static 28.2: 96 h <i>Poecilia reticulata</i> mg/L LC50 semi-static 5.8: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 semi-static 54: 96 h <i>Oryzias latipes</i> mg/L LC50 static	5.46 - 9.83: 48 h <i>Daphnia magna</i> mg/L EC50 Static 11.5: 48 h <i>Daphnia magna</i> mg/L EC50
Potassium acid phthalate 877-24-7	Not Established	Not Established	Not Established

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
Hydrochloric acid 7647-01-0	Not Established
Toluene 108-88-3	2.65
Potassium acid phthalate 877-24-7	Not Established

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents/containers in accordance with local regulations. 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.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Hydrochloric acid 7647-01-0	Not Established	-	Not Established	Not Established
Toluene 108-88-3	U220	Included in waste streams: F005, F024, F025, F039, K015, K036, K037, K149, K151	Not Established	U220
Potassium acid phthalate 877-24-7	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Hydrochloric acid 7647-01-0	Not Established	Not Established	Not Established	Not Established
Toluene 108-88-3	Not Established	Not Established	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain	Not Established

			chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	
Potassium acid phthalate 877-24-7	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Hydrochloric acid 7647-01-0	-
Toluene 108-88-3	Toxic Ignitable
Potassium acid phthalate 877-24-7	-

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

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 %
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Hydrochloric acid 7647-01-0	1.0
Toluene 108-88-3	1.0
Potassium acid phthalate 877-24-7	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	No

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
Hydrochloric acid 7647-01-0	5000 lb	Not Established	Not Established	X
Toluene 108-88-3	1000 lb	X	X	X
Potassium acid phthalate 877-24-7	Not Established	Not Established	Not Established	Not Established

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	RQ
Hydrochloric acid 7647-01-0	5000 lb	5000 lb	RQ 5000 lb final RQ RQ 2270 kg final RQ
Toluene 108-88-3	1000 lb 1 lb	Not Established	RQ 1000 lb final RQ RQ 454 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ
Potassium acid phthalate 877-24-7	-	Not Established	-

US State Regulations**California Proposition 65**

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm

Chemical name	California Proposition 65
Hydrochloric acid 7647-01-0	Not Established
Toluene 108-88-3	Developmental
Potassium acid phthalate 877-24-7	Not Established

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Hydrochloric acid 7647-01-0	X	X	X
Toluene 108-88-3	X	X	X
Potassium acid phthalate 877-24-7	Not Established	Not Established	Not Established

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

Chemical name	CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

Hydrochloric acid 7647-01-0	Add POISON to label, 16 CFR 1500.129
Toluene 108-88-3	Special labeling, 16 CFR 1500.14

16. OTHER INFORMATION

NFPA Health hazard 2 Flammability 0 Instability 0 Physical and Chemical Hazards N/A

Health hazard 2

Stability 1



Health Hazard	2
Fire Hazard	0
Reactivity	1

Prepared by Regulatory Affairs Department
 Issuing Date Jun-01-2015
 Revision Date Mar-21-2016
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 Sequest #2

Other means of identification

Product Code(s) JM-3965

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 Clear, colorless	Physical state liquid	Odor Odorless
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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

Chemical Family Metal nitrate salts.

Chemical name	CAS No	Weight-%
Thorium (IV) nitrate, tetrahydrate	13470-07-0	0.07

4. FIRST AID MEASURES

First Aid Measures

General advice	Show this safety data sheet to the doctor in attendance. 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. Get medical attention if irritation persists.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and contact emergency personnel. Call a physician immediately.
Ingestion	Immediate medical attention is required. Drink plenty of water. 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.
<u>Self-protection of the first aider</u>	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. FIRE-FIGHTING MEASURES

Suitable extinguishing media

CO₂ (except for cyanides), dry chemical, dry sand, alcohol-resistant foam.

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	See section 8. Use personal protective equipment. Avoid contact with skin, eyes, and inhalation of vapors.
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	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. 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. Keep away from heat. Keep away from direct sunlight. Keep out of the reach of children.

Incompatible Products Strong oxidizing agents. Strong reducing agents. Organic material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Thorium (IV) nitrate, tetrahydrate 13470-07-0	-	-	Not Established

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

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

Skin and body protection Wear protective gloves/clothing. Gloves & Lab Coat.

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

Information on basic physical and chemical properties

Physical state liquid
Appearance Clear, colorless
Odor Odorless

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH		No information available
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	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.
Incompatible materials	Strong oxidizing agents. Strong reducing agents. Organic material.
Hazardous decomposition products	Nitrogen oxides (NOx). Thorium salts.

11. TOXICOLOGICAL INFORMATION

Product Information	3965 is a very dilute solution of Thorium nitrate. Specific activity of 3965 is 0.000032 microcuries/gram. (Regulatory level is greater than 0.002 microcuries/gram. 3965 falls far below the regulatory level and is not expected to be toxic)
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Information on likely routes of exposure**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Thorium (IV) nitrate, tetrahydrate 13470-07-0	Not Established	Not Established	Not Established

Information on toxicological effects

Chemical name	ACGIH	IARC	NTP	OSHA
Thorium (IV) nitrate, tetrahydrate 13470-07-0	Not Established	Not Established	Not Established	Not Established

Chronic toxicity	No known effect based on information supplied.
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12. ECOLOGICAL INFORMATION**Ecotoxicity**

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Thorium (IV) nitrate, tetrahydrate 13470-07-0	Not Established	Not Established	Not Established

Persistence and degradability

No information available.

Bioaccumulation/Accumulation

No information available.

Chemical name	Log Pow
Thorium (IV) nitrate, tetrahydrate 13470-07-0	Not Established

13. DISPOSAL CONSIDERATIONS

Disposal Methods Dispose according to federal, state, and local regulations.

Contaminated packaging Do not reuse empty containers.

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Thorium (IV) nitrate, tetrahydrate 13470-07-0	Not Established	-	Not Established	Not Established

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Thorium (IV) nitrate, tetrahydrate 13470-07-0	Not Established	Not Established	Not Established	Not Established

Chemical name	California Hazardous Waste Status
Thorium (IV) nitrate, tetrahydrate 13470-07-0	-

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

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

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 %
Thorium (IV) nitrate, tetrahydrate 13470-07-0	1.0

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Thorium (IV) nitrate, tetrahydrate 13470-07-0	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
Thorium (IV) nitrate, tetrahydrate 13470-07-0	-	Not Established	-

US State Regulations

California Proposition 65

WARNING! This product contains a chemical known to the State of California to cause cancer

Chemical name	California Proposition 65
Thorium (IV) nitrate, tetrahydrate 13470-07-0	Not Established

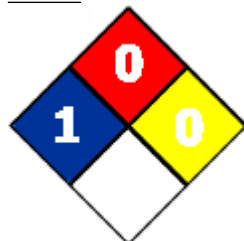
U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Thorium (IV) nitrate, tetrahydrate 13470-07-0	Not Established	Not Established	Not Established

CPSC (Consumer Product Safety Commission) - Specially Regulated Substances

16. OTHER INFORMATION

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



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by

Regulatory Affairs Department

Issuing Date

Oct-19-2015

Reason for revision

Initial Release

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 0.1N

Other means of identification

Product Code(s) 6155

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
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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.

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

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. If symptoms persist or develop contact physician. Never give anything by mouth to an unconscious person.
<u>Self-protection of the first aider</u>	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. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, CO₂, 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

Personal precautions	Use personal protective equipment. See section 8. Avoid contact with eyes, skin and clothing.
Environmental precautions	See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for cleaning up	If local regulations permit, rinse to drain with excess water. After cleaning, flush away traces with water.
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7. HANDLING AND STORAGE

Precautions for safe handling

Handling	Handle in accordance with good industrial hygiene and safety practice. Prevent contact with skin, eyes, and clothing. Do not taste or swallow. Do not eat, drink, or smoke when using this product.
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Conditions for safe storage, including any incompatibilities

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

Incompatible Products Acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

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

Skin and body protection Wear protective gloves/clothing.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	None
Appearance	colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
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	pH	7.0-7.5
Melting point / freezing point	No information available	
Boiling point / boiling range	>100 °C / >212 °F	
Flash point	No information available	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	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. Direct sunlight.
Incompatible materials Acids.
Hazardous decomposition products

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Component Information

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.

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

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 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

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

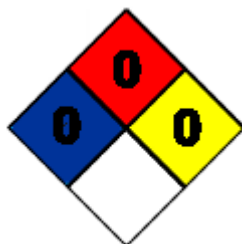
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

US State Regulations**California Proposition 65****U.S. State Right-to-Know Regulations****CPSC (Consumer Product Safety Commission) - Specially Regulated Substances****16. OTHER INFORMATION**

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



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by Regulatory Affairs Department
Issuing Date Jun-01-2015
Revision Date Jul-24-2015
Reason for revision New US GHS format
Disclaimer

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

End of Material Safety Data Sheet

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

Product Code(s) 6155
Product name SODIUM THIOSULFATE 0.1N

REACH registration number A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration
Substance or Preparation Preparation

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

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

1.3. Details of the supplier of the safety data sheet

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

Contact for timely inquiries in regards to this product:

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

1.4. Emergency telephone number

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

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

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

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

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

Symbol(s)
Not dangerous

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Pictogram(s)**Signal word** None**Hazard statements** None**2.3. Other hazards**

None

Section 3: COMPOSITION/ INFORMATION OF INGREDIENTS**3.1 Substances**

Not Applicable

3.2 Mixtures

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

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

General advice	Do not get in eyes, on skin, or on clothing.
Inhalation	Not expected.
Skin contact	Wash off with warm water and soap. If skin irritation persists, call a physician.
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.
Ingestion	Drink plenty of water. If symptoms persist or develop contact physician. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	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.

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

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

No data available

Section 5: FIREFIGHTER MEASURES**5.1. Extinguishing media****Suitable extinguishing media**Dry chemical, CO₂, alcohol-resistant foam or water spray.**Unsuitable extinguishing media**

No information available

5.2. Special hazards arising from the substance or mixture

No information available

5.3. Advice for firefighters

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

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Use personal protective equipment. See section 8. Avoid contact with eyes, skin and clothing.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment

Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

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

6.4. Reference to other sections

For disposal see section 13.

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

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage

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

7.3. Specific end use(s)

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

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1. Control parameters

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

8.2. Exposure controls

Engineering Measures	Showers Eyewash stations Ventilation systems Ensure adequate ventilation, especially in confined areas
Personal protective equipment	
Eye/Face Protection	Wear safety glasses with side shields (or goggles).
Skin and body protection	Long sleeved clothing.
Environmental exposure controls	No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical state	liquid	Odor	None
Appearance	Colorless		
Property	Values	Remarks • Method	
pH	7.0-7.5		
Melting point / freezing point		No information available	
Boiling point / boiling range	>100 °C / >212 °F	No information available	
Flash point		No information available	
Evaporation rate		No information available	
Flammability (solid, gas)		No information available	
Flammability Limit in Air			
Upper flammability limit:		Not applicable	
Lower flammability limit:		Not applicable	
Vapor pressure		No information available	
Vapor density		No information available	
Specific gravity		No information available	
Water solubility		No information available	
Solubility in other solvents		No information available	
Partition coefficient		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Kinematic viscosity		No information available	
Dynamic viscosity		No information available	
Explosive properties	No information available		
Oxidizing properties	No information available		

9.2. Other information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

No data available.

10.2. Chemical stability

Stable under normal conditions of use and storage.

10.3. Possibility of hazardous reactions

Hazardous polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

None under normal processing.

10.4. Conditions to avoid

Excessive heat. Direct sunlight.

10.5. Incompatible materials

Acids.

10.6. Hazardous decomposition products

None under normal use.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects**Acute toxicity****Product Information****Inhalation****Eye contact****Skin contact****Ingestion**

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

There is no data available for this product.

There is no data available for this product.

There is no data available for this product.

There is no data available for this product.

Skin corrosion/irritation

No information available.

Serious eye damage/eye irritation

No information available.

Sensitization

No information available.

Mutagenic effects

No information available.

Carcinogenic effects

No information available.

Reproductive toxicity

No information available.

STOT - single exposure

No information available.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity**12.2. Persistence and degradability**

No product level data available.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products Dispose of waste product or used containers according to local regulations.

Contaminated packaging Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION

IMDG/IMO

14.1
 14.2 **Proper shipping name** NOT REGULATED BY IMDG/IMO
 14.3
 14.4

ICAO

14.1
 14.2 **Proper shipping name** Not Regulated
 14.3
 14.4
 14.5
 14.6

IATA

14.1
 14.2 **Proper shipping name** Not Regulated
 14.3
 14.4
 14.5
 14.6

Section 15: REGULATORY INFORMATION

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

Germany	None
Water contaminating class (Netherlands)	None
Switzerland Poison Classification	None
European Union	None

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

15.2. Chemical safety assessment

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

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

No information available

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

Prepared by	Regulatory Affairs Department
Issuing Date	Jun-01-2015
Recommendations on Use	Laboratory chemicals Industrial (not for food or food contact use) Restricted to professional users

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

Disclaimer

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

End of Safety Data Sheet

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

Product identifier

Product name THORIUM NITRATE (0.0013 M)

Other means of identification

Product Code(s) 3965

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 Clear, colorless	Physical state liquid	Odor Odorless
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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.

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

Chemical Family Metal nitrate salts.

WARNING! This product contains a chemical known to the State of California to cause cancer

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.

Eye contact 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.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Remove and isolate contaminated clothing and shoes. Wash contaminated clothing before reuse. Call a physician immediately.

Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion 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.

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.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

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

Protective equipment and precautions for firefighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.

Environmental precautions See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up 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 heat. Keep away from direct sunlight. Keep out of the reach of children.

Incompatible Products Strong oxidizing agents. Strong reducing agents. Organic material.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

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

Skin and body protection Wear protective gloves/clothing. Gloves & Lab Coat. Protective 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	liquid	Odor	Odorless
Appearance	Clear, colorless		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
		No information available
Melting point / freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	No information available	
Evaporation rate		
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	No information available	
Lower flammability limit:	No information available	
Vapor pressure	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 products.
Incompatible materials Strong oxidizing agents. Strong reducing agents. Organic material.
Hazardous decomposition products Nitrogen oxides (NOx). Thorium salts.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Component Information

Information on toxicological effects

Sensitization No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown Aquatic Toxicity 0.07 % of the mixture consists of component(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.

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

DOT Not regulated

IATA Not regulated

IMDG/IMO Not regulated

15. REGULATORY INFORMATION

International Inventories

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

Legend:

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

US Federal Regulations

SARA 313

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

SARA 311/312 Hazard Categories

Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

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

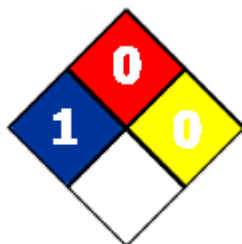
California Proposition 65

WARNING! This product contains a chemical known to the State of California to cause cancer

U.S. State Right-to-Know Regulations

16. OTHER INFORMATION

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



Health Hazard	1
Fire Hazard	0
Reactivity	0

Prepared by Regulatory Affairs Department
Issuing Date May-29-2015
Revision Date May-29-2015
Reason for revision New US GHS format

Disclaimer

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

End of Material Safety Data Sheet

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

Product Code(s) 3965
Product name THORIUM NITRATE (0.0013 M)

Substance or Preparation Preparation

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

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

1.3. Details of the supplier of the safety data sheet

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

Contact for timely inquiries in regards to this product:

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

1.4. Emergency telephone number

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

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

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

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.1.2 Classification according to Directive 67/548/EEC or 1999/45/EC

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

Symbol(s)
Not dangerous

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Pictogram(s)

Signal word None

Hazard statements None

2.3. Other hazards

None.

Section 3: COMPOSITION/ INFORMATION OF INGREDIENTS

3.1 Substances

Not Applicable

3.2 Mixtures

Chemical name	EC No	CAS No	Weight-%	Classification	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Reg. No
Thorium (IV) nitrate, tetrahydrate	-	13470-07-0	0.07	-	No data available	-
Water	EEC No. Present	7732-18-5	to 100%	-	No data available	-

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

Section 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and isolate contaminated clothing and shoes. Wash contaminated clothing before reuse. Call a physician immediately.
Eye contact	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.
Ingestion	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.
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.

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

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11

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

No data available

Section 5: FIREFIGHTER MEASURES

5.1. Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

No information available

5.2. Special hazards arising from the substance or mixture

No information available

5.3. Advice for firefighters

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

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

See Section 12 for additional Ecological Information.

6.3. Methods and material for containment and cleaning up

Methods for containment

Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13).

Methods for cleaning up

After cleaning, flush away traces with water.

6.4. Reference to other sections

For disposal see section 13.

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

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Handling

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage

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

7.3. Specific end use(s)

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

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1. Control parameters

Chemical name	Eu	The United Kingdom	France	Spain	Germany
Thorium (IV) nitrate, tetrahydrate 13470-07-0	Not Established	Not Established	Not Established	-	-
Water 7732-18-5	Not Established	Not Established	Not Established	-	-
Chemical name	Italy	Portugal	The Netherlands	Finland	Denmark
Thorium (IV) nitrate, tetrahydrate 13470-07-0	-	Not Established	-	Not Established	Not Established
Water 7732-18-5	-	Not Established	-	Not Established	Not Established
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Thorium (IV) nitrate, tetrahydrate 13470-07-0	-	Not Established	Not Established	Not Established	Not Established
Water 7732-18-5	-	Not Established	Not Established	Not Established	Not Established

Chemical name	European Union	United Kingdom	France	Spain	Germany
Thorium (IV) nitrate, tetrahydrate 13470-07-0	-	-	-	-	-
Water 7732-18-5	-	-	-	-	-
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Thorium (IV) nitrate, tetrahydrate 13470-07-0	-	-	-	-	-
Water 7732-18-5	-	-	-	-	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Thorium (IV) nitrate, tetrahydrate 13470-07-0	-	-	-	-	-
Water 7732-18-5	-	-	-	-	-

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Measures

Showers
Eyewash stations
Ventilation systems.

Personal protective equipment

Eye/Face Protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Long sleeved clothing.

Environmental exposure controls No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state

liquid

Appearance

Clear, colorless

Odor

Odorless

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	3	
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		
Upper flammability limit:		Not applicable
Lower flammability limit:		Not applicable
Vapor pressure		No information available
Vapor density		No information available
Specific gravity		No information available
Water solubility		No information available
Solubility in other solvents		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No information available
Dynamic viscosity		No information available
Explosive properties	No information available	
Oxidizing properties	No information available	
<u>9.2. Other information</u>		
Softening point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Density	No information available	
Bulk density	No information available	

Section 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

None under normal processing.

10.4. Conditions to avoid

Excessive heat. Incompatible products.

10.5. Incompatible materials

Strong oxidizing agents. Strong reducing agents. Organic material.

10.6. Hazardous decomposition products

Nitrogen oxides (NO_x). Thorium salts.

Section 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects**Acute toxicity****Product Information**

3965 is a very dilute solution of Thorium nitrate. Specific activity of 3965 is 0.000032 microcuries/gram. (Regulatory level is greater than 0.002 microcuries/gram. 3965 falls far below the regulatory level and is not expected to be toxic).

Inhalation None known.
Eye contact None known.
Skin contact None known.
Ingestion None known.

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Water	> 90 mL/kg (Rat)		

Skin corrosion/irritation No information available.

Serious eye damage/eye irritation No information available.

Sensitization No information available.

Mutagenic effects No information available.

Carcinogenic effects No information available.

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Chemical name	Toxicity to Algae	Toxicity to Fish	Daphnia Magna (Water Flea)
Thorium (IV) nitrate, tetrahydrate	Not Established	Not Established	Not Established
Water	Not Established	Not Established	Not Established

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical name	Log Pow
Thorium (IV) nitrate, tetrahydrate	Not Established
Water	Not Established

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

Chemical name	PBT and vPvB assessment
Thorium (IV) nitrate, tetrahydrate	-
Water	-

12.6. Other adverse effects

No information available

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine disrupting potential
Thorium (IV) nitrate, tetrahydrate	Not Established	Not Established	Not Established
Water	Not Established	Not Established	Not Established

Section 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Waste from residues/unused products Dispose of waste product or used containers according to local regulations.

Contaminated packaging Do not reuse empty containers.

Section 14: TRANSPORT INFORMATION**IMDG/IMO**

14.1
 14.2 Proper shipping name NOT REGULATED BY IMDG/IMO
 14.3
 14.4

ICAO

14.1
 14.2 Proper shipping name Not Regulated
 14.3
 14.4
 14.5
 14.6

IATA

14.1
 14.2 Proper shipping name Not Regulated
 14.3
 14.4
 14.5
 14.6

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Chemical name	French RG number	Title
Thorium (IV) nitrate, tetrahydrate	-	-

(CAS # 13470-07-0)		
Water (CAS # 7732-18-5)	-	-

Germany**European Union**

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

International Inventories

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

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
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IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

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

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

No information available

Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

TWA - TWA (time-weighted average)

STEL - STEL (Short Term Exposure Limit)

Ceiling - Maximum limit value

Prepared by Regulatory Affairs Department

Issuing Date May-29-2015

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

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

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End of Safety Data Sheet