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SB45947

# SAFETY DATA SHEET

Issuing Date 02-Jun-2015

Revision Date 02-Jun-2015

Revision Number 3



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

### Product identifier

**Product Name** Activated Charcoal

### Other means of identification

**Synonyms**

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

**Recommended Use** Use only with proper supervision and according to directions and precautions provided in the corresponding science education set instructions.

**Uses advised against** No information available

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

**Supplier Name** Thames & Kosmos

**Supplier Address** 301 Friendship Street  
Providence  
RI  
02903  
US

**Supplier Phone Number** Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

**Supplier Email** products@thamesandkosmos.com

**Emergency telephone number** (US Poison Control)1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



Self-heating substances and mixtures

Category 2

**GHS Label elements, including precautionary statements****Emergency Overview****Signal word****Warning**

Self-heating in large quantities; may catch fire

**Appearance** Black**Physical state** Granular Solid**Odor** Odorless**Precautionary Statements - Prevention**

Keep cool. Protect from sunlight  
 Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

None

**Precautionary Statements - Storage**

Maintain air gap between stacks/pallets  
 Store bulk masses greater than 50 kg/ 110 lbs at temperatures not exceeding 50 °C/ 122 °F  
 Store away from other materials

**Precautionary Statements - Disposal**

None

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

100% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

May cause slight eye irritation

**Interactions with Other Chemicals**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No	Weight-%	Trade Secret
Carbon	7440-44-0	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

**4. FIRST AID MEASURES**

**First aid measures**

- Eye contact**                      Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. If eye irritation persists: Get medical advice/attention.
- Skin contact**                      Wash with soap and water.
- Inhalation**                      Remove to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention immediately.
- Ingestion**                      Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects**      No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**                      Treat symptomatically.



**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**

Foam. Dry chemical. Carbon dioxide (CO2).

**Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

These substances will accelerate burning when involved in a fire.

**Uniform Fire Code**

FLAMMABLE SOLID: ORGANIC

**Hazardous Combustion Products**

Carbon oxides.

**Explosion Data**

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** Yes.

**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**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Avoid generation of dust.

**Environmental precautions**

**Environmental precautions**

Refer to protective measures listed in Sections 7 and 8.

**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**

Pick up and transfer to properly labeled containers.



## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Avoid dust formation in confined areas. Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. In case of insufficient ventilation, wear suitable respiratory equipment.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep container tightly closed in a dry and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition.

**Incompatible Products** Oxidizing agent.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

**Other Exposure Guidelines** See section 15 for national exposure control parameters

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/face protection** If there is a risk of contact. Wear safety glasses with side shields (or goggles).

**Skin and body protection** No special protective equipment required.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

<b>Physical state</b>	Granular, Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Black	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		



<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	No data available	None known	
Water Solubility	Insoluble	None known	
Solubility in other solvents	No data available	None known	
Partition coefficient: n-octanol/water	No data available	None known	
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	No data available	None known	
Explosive properties	No data available	None known	
Oxidizing properties	No data available	None known	

**Other Information**

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

## 10. STABILITY AND REACTIVITY

**Reactivity**

This product, by reaction with air and without energy supply, is liable to self-heat and will ignite when in large amounts and after long periods of time. The spontaneous ignition temperature will be  $\leq 50^{\circ}\text{C}$  for a volume of 27 m<sup>3</sup>.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

Dust formation. Heat, flames and sparks.

**Incompatible materials**

Oxidizing agent.

**Hazardous Decomposition Products**

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. May cause temporary eye irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Carbon 7440-44-0	> 10000 mg/kg ( Rat )	-	-

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Chronic Toxicity** No known effect based on information supplied.

**Target Organ Effects** Central Vascular System (CVS), Respiratory system.

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

The following values are calculated based on chapter 3.1 of the GHS document  
Not applicable

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal methods**                      This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

**Contaminated Packaging**              Dispose of contents/containers in accordance with local regulations.

**US EPA Waste Number**                D001

**California Hazardous Waste Codes** 331

**14. TRANSPORT INFORMATION**

**DOT**

**Proper Shipping Name**                SMALL QUANTITY  
**Hazard Class**                            4.2  
**Description**                              UN1362, CARBON, ACTIVATED, 4.2, III, SMALL QUANTITY  
**Emergency Response Guide Number**    133

**TDG**

**UN-No.**                                      UN1362  
**Proper Shipping Name**                CARBON, ACTIVATED  
**Hazard Class**                              4.2  
**Packing Group**                            III  
**Description**                                UN1362, CARBON, ACTIVATED, 4.2, III

**MEX**

**UN-No.**                                      UN1362  
**Proper Shipping Name**                CARBON, ACTIVATED  
**Hazard Class**                              4.2  
**Packing Group**                            III



Description UN1362, CARBON, ACTIVATED, 4.2, III

**ICAO**

UN-No. UN1362  
 Proper Shipping Name CARBON, ACTIVATED  
 Hazard Class 4.2  
 Packing Group III  
 Description UN1362, CARBON, ACTIVATED, 4.2, III

**IATA**

UN-No. UN1362  
 Proper Shipping Name CARBON, ACTIVATED  
 Hazard Class 4.2  
 Packing Group III  
 Description UN1362, CARBON, ACTIVATED, 4.2, III

**IMDG/IMO**

UN-No. UN1362  
 Proper Shipping Name CARBON, ACTIVATED  
 Hazard Class 4.2  
 Packing Group III  
 EmS-No. F-A, S-J  
 Description UN1362, CARBON, ACTIVATED, 4.2, III

**RID**

UN-No. UN1362  
 Proper Shipping Name CARBON, ACTIVATED  
 Hazard Class 4.2  
 Packing Group III  
 Classification code S2  
 Description UN1362, CARBON, ACTIVATED, 4.2, III

**ADR**

UN-No. UN1362  
 Proper Shipping Name CARBON, ACTIVATED  
 Hazard Class 4.2  
 Packing Group III  
 Classification code S2  
 Tunnel restriction code (E)  
 Description UN1362, CARBON, ACTIVATED, 4.2, III

**ADN**

UN-No. UN1362  
 Proper Shipping Name CARBON, ACTIVATED  
 Hazard Class 4.2  
 Packing Group III  
 Classification code S2  
 Special Provisions 646  
 Description UN1362, CARBON, ACTIVATED, 4.2, III  
 Hazard Labels 4.2  
 Limited Quantity 0

## 15. REGULATORY INFORMATION

### International Inventories



TSCA Complies  
 DSL All components are listed either on the DSL or NDSL.  
 IECSC -

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

**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	Yes
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**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Carbon 7440-44-0			X		

**International Regulations**

**Mexico**

**National occupational exposure limits**

Component	Carcinogen Status	Exposure Limits
Carbon 7440-44-0 ( 60 - 100 )		Mexico: TWA 2 mg/m <sup>3</sup>

Mexico - Occupational Exposure Limits - Carcinogens

**Canada**

**WHMIS Hazard Class**

Not determined



**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b>	1	<b>Flammability</b>	3	<b>Instability</b>	1	<b>Physical and Chemical Hazards</b>	-
<b>HMIS</b>	<b>Health Hazards</b>	1	<b>Flammability</b>	1	<b>Physical Hazard</b>	1	<b>Personal Protection</b>	X

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Issuing Date** 02-Jun-2015  
**Revision Date** 02-Jun-2015  
**Revision Note** No information available

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date No data available

Revision Date 14-Oct-2014

Revision Number 2



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

### Product identifier

Product Name Ammonium Iron(III) Sulfate

### Other means of identification

Synonyms None

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

Recommended Use

Use only with proper supervision and according to the directions and precautions provided in the corresponding science educational set instructions

Uses advised against

No information available

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

Supplier Name

Thames & Kosmos

Supplier Address

301 Friendship Street  
Providence  
RI  
02903  
US

Supplier Phone Number

Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

Supplier Email

products@thamesandkosmos.com

Emergency telephone number

(US Poison Control)1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

### GHS Label elements, including precautionary statements

### Emergency Overview



The product contains no substances which at their given concentration, are considered to be hazardous to health

**Appearance** Violet

**Physical State** Solid

**Odor** Odorless

**Precautionary Statements - Prevention**

Obtain special instructions before use

**Precautionary Statements - Response**

None

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

None

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

100% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

May cause slight eye irritation

PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION

**Interactions with Other Chemicals**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No	Weight-%	Trade Secret
Ferric ammonium sulfate	10138-04-2	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

**4. FIRST AID MEASURES**

**First aid measures**

- Eye Contact** Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.
- Skin Contact** Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
- Inhalation** Remove to fresh air. If symptoms persist, call a physician.
- Ingestion** Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.



**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

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

**Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific Hazards Arising from the Chemical**

No information available.

**Hazardous Combustion Products**

Carbon oxides.

**Explosion Data**

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

**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** Avoid contact with eyes.

**Environmental Precautions**

**Environmental Precautions** Refer to protective measures listed in Sections 7 and 8.

**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** Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

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

**Storage** Keep container tightly closed.

**Incompatible Products** None known based on information supplied.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ferric ammonium sulfate 10138-04-2	TWA: 1 mg/m <sup>3</sup> Fe	(vacated) TWA: 1 mg/m <sup>3</sup> Fe	TWA: 1 mg/m <sup>3</sup> Fe

*ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health*

**Other Exposure Guidelines** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992) See section 15 for national exposure control parameters

**Appropriate engineering controls**

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/Face Protection** No special protective equipment required.

**Skin and Body Protection** No special protective equipment required.

**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<b>Physical State</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Violet	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<b>Property</b>	<b>Values</b>	<b>Remarks/ Method</b>
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pH	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	Slightly soluble	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing Properties	No data available	

**Other Information**

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

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



<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye Contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin Contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.

**Component Information****Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive Toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Chronic Toxicity** May cause adverse liver effects.

**Target Organ Effects** Eyes. Gastrointestinal tract (GI). Liver. Respiratory system. Skin.

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

The following values are calculated based on chapter 3.1 of the GHS document  
Not applicable

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

#### **Disposal methods**

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**

Dispose of contents/containers in accordance with local regulations.

### 14. TRANSPORT INFORMATION

<b><u>DOT</u></b>	NOT REGULATED
<b>Proper Shipping Name</b>	NON REGULATED
<b>Hazard Class</b>	N/A

<b><u>TDG</u></b>	Not regulated
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<b><u>MEX</u></b>	Not regulated
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<b><u>ICAO</u></b>	Not regulated
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<b><u>IATA</u></b>	Not regulated
<b>Proper Shipping Name</b>	NON REGULATED
<b>Hazard Class</b>	N/A

<b><u>IMDG/IMO</u></b>	Not regulated
<b>Hazard Class</b>	N/A

<b><u>RID</u></b>	Not regulated
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<b><u>ADR</u></b>	Not regulated
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<b><u>ADN</u></b>	Not regulated
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### 15. REGULATORY INFORMATION

#### International Inventories

<b>TSCA</b>	Complies
<b>DSL</b>	All components are listed either on the DSL or NDSL.

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

#### 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	CAS No	Weight-%	SARA 313 - Threshold Values %
Ferric ammonium sulfate - 10138-04-2	10138-04-2	60 - 100	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)**

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

**CERCLA**

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

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Ferric ammonium sulfate 10138-04-2			X	X	

**International Regulations**

**Mexico**

**National occupational exposure limits**

Component	Carcinogen Status	Exposure Limits
Ferric ammonium sulfate 10138-04-2 ( 60 - 100 )		Mexico: TWA 1 mg/m <sup>3</sup> Mexico: STEL 2 mg/m <sup>3</sup>

Mexico - Occupational Exposure Limits - Carcinogens

**Canada**

**WHMIS Hazard Class**

Non-controlled

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards 1</b>	<b>Flammability 0</b>	<b>Instability 0</b>	<b>Physical and Chemical Hazards - Personal Protection X</b>
<b>HMIS</b>	<b>Health Hazards 1</b>	<b>Flammability 0</b>	<b>Physical Hazard 0</b>	

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Revision Date** 14-Oct-2014



**Revision Note**                      No information available

**Disclaimer**

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date 02-Jun-2015

Revision Date 02-Jun-2015

Revision Number 2



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

### Product identifier

Product Name Iron Powder

### Other means of identification

Synonyms None

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

Recommended Use Only with proper supervision and according to directions and precautions provided in the corresponding science educational set instructions.

Uses advised against No information available

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

Supplier Name Thames & Kosmos

Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US

Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

Supplier Email products@thamesandkosmos.com

Emergency telephone number (US Poison Control) 1-800-222-1222

## 2. HAZARDS IDENTIFICATION


### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



Acute toxicity - Oral	Category 4
Flammable solids	Category 2

**GHS Label elements, including precautionary statements****Emergency Overview**

<b>Signal word</b>	<b>Warning</b>		
<b>Hazard Statements</b>			
Harmful if swallowed			
Flammable solids			
			
<b>Appearance</b>	Gray	<b>Physical state</b>	Solid/Powder Solid
		<b>Odor</b>	Odorless

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating/ lighting/ equipment  
 Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response****Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

Very toxic to aquatic life with long lasting effects  
 PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION

**Interactions with Other Chemicals**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No	Weight-%	Trade Secret
Iron	7439-89-6	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice**

Show this safety data sheet to the doctor in attendance.

**Eye contact**

Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

**Skin contact**

Wash with soap and water.

**Inhalation**

Remove to fresh air.

**Ingestion**

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**

Treat symptomatically.



## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1® or Met-L-X® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk.

### Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific hazards arising from the chemical

Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**Uniform Fire Code**                      FLAMMABLE SOLID: INORGANIC

### Explosion Data

**Sensitivity to Mechanical Impact**      None.

**Sensitivity to Static Discharge**        Yes.

### 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**                      Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

**Other Information**                              Ventilate the area.

### Environmental precautions

**Environmental precautions**                Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

### Methods and material for containment and cleaning up

**Methods for containment**                      Prevent further leakage or spillage if safe to do so. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Keep out of drains, sewers, ditches and waterways.

**Methods for cleaning up**                      Take precautionary measures against static discharges. Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Use personal protection equipment. Avoid contact with skin and eyes. Avoid generation of dust. Do not breathe dust. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

**Incompatible Products** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves. Antistatic boots.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES



**Physical and Chemical Properties**

<b>Physical state</b>	Solid/Powder, Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Gray	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	No data available	None known	
Water Solubility	Insoluble	None known	
Solubility in other solvents	No data available	None known	
Partition coefficient: n-octanol/water	No data available	None known	
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	No data available	None known	
Explosive properties	No data available		
Oxidizing properties	No data available		

**Other Information**

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

**10. STABILITY AND REACTIVITY****Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

Heat, flames and sparks.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

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

**Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Dust contact with the eyes can lead to mechanical irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Harmful if swallowed. (based on components).

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Iron 7439-89-6	= 984 mg/kg ( Rat )	-	-

**Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organ Effects** None known.

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

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

**ATEmix (oral)**  
984.00 mg/kg

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Iron 7439-89-6		96h LC50: = 13.6 mg/L (Morone saxatilis)		

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal methods** This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Should not be released into the environment. Dispose of contents/containers in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated Packaging** Dispose of contents/containers in accordance with local regulations.

**US EPA Waste Number** D001

**California Hazardous Waste Codes** 141

**14. TRANSPORT INFORMATION**

**DOT**

**Proper Shipping Name** CONSUMER COMMODITY  
**Hazard Class** ORM-D  
**Description** CONSUMER COMMODITY, ORM-D

**TDG**

**UN-No.** UN3089  
**Proper Shipping Name** METAL POWDER, FLAMMABLE, N.O.S.  
**Hazard Class** 4.1  
**Packing Group** III  
**Description** UN3089, METAL POWDER, FLAMMABLE, N.O.S., 4.1, III

**MEX**

**UN-No.** UN3089



<b>Proper Shipping Name</b>	METAL POWDER, FLAMMABLE, N.O.S.
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Description</b>	UN3089, METAL POWDER, FLAMMABLE, N.O.S. (IRON), 4.1, III

**ICAO**

<b>UN-No.</b>	UN3089
<b>Proper Shipping Name</b>	METAL POWDER, FLAMMABLE, N.O.S.
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Description</b>	UN3089, METAL POWDER, FLAMMABLE, N.O.S., 4.1, III

**IATA**

<b>UN-No.</b>	UN3089
<b>Proper Shipping Name</b>	METAL POWDER, FLAMMABLE, N.O.S.
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Description</b>	UN3089, METAL POWDER, FLAMMABLE, N.O.S., 4.1, III

**IMDG/IMO**

<b>UN-No.</b>	UN3089
<b>Proper Shipping Name</b>	METAL POWDER, FLAMMABLE, N.O.S.
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>EmS-No.</b>	F-G, S-G
<b>Marine Pollutant</b>	Product is a marine pollutant according to the criteria set by IMDG/IMO
<b>Description</b>	UN3089, METAL POWDER, FLAMMABLE, N.O.S., 4.1, III

**RID**

<b>UN-No.</b>	UN3089
<b>Proper Shipping Name</b>	METAL POWDER, FLAMMABLE, N.O.S.
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Classification code</b>	F3
<b>Description</b>	UN3089, METAL POWDER, FLAMMABLE, N.O.S. (IRON), 4.1, III

**ADR**

<b>UN-No.</b>	UN3089
<b>Proper Shipping Name</b>	METAL POWDER, FLAMMABLE, N.O.S.
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Classification code</b>	F3
<b>Tunnel restriction code</b>	(E)
<b>Description</b>	UN3089, METAL POWDER, FLAMMABLE, N.O.S., 4.1, III

**ADN**

<b>UN-No.</b>	UN3089
<b>Proper Shipping Name</b>	METAL POWDER, FLAMMABLE, N.O.S.
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Classification code</b>	F3
<b>Special Provisions</b>	552
<b>Description</b>	UN3089, METAL POWDER, FLAMMABLE, N.O.S. (IRON), 4.1, III
<b>Limited Quantity</b>	5 KG

**15. REGULATORY INFORMATION**

**International Inventories**

TSCA Complies  
 DSL All components are listed either on the DSL or NDSL.  
 IECSC -

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

**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	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
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**

This product does not contain any Proposition 65 chemicals.

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

This product does not contain any substances regulated by state right-to-know regulations.

**International Regulations**

**Canada**

**WHMIS Hazard Class**  
 Not determined

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b>	<b>1</b>	<b>Flammability</b>	<b>3</b>	<b>Instability</b>	<b>0</b>	<b>Physical and Chemical Hazards</b>	<b>-</b>
<b>HMIS</b>	<b>Health Hazards</b>	<b>1</b>	<b>Flammability</b>	<b>3</b>	<b>Physical Hazard</b>	<b>0</b>	<b>Personal Protection</b>	<b>-</b>



X

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Issuing Date** 02-Jun-2015  
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**Revision Note** No information available

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date 02-Jun-2015

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Revision Number 2



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

### Product identifier

Product Name Potassium Bromide

### Other means of identification

Synonyms None

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

Recommended Use Only with proper supervision and according to directions and precautions provided in the corresponding science educational set instructions.

Uses advised against No information available

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

Supplier Name Thames & Kosmos

Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US

Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

Supplier Email products@thamesandkosmos.com

Emergency telephone number (US Poison Control)1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification


This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



Serious eye damage/eye irritation	Category 2
-----------------------------------	------------

**GHS Label elements, including precautionary statements**

**Emergency Overview**

<b>Signal word</b> Warning		
<b>Hazard Statements</b> Causes serious eye irritation		
		
<b>Appearance</b> Off white	<b>Physical state</b> Solid	<b>Odor</b> Odorless

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wear eye/face protection

**Precautionary Statements - Response**

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

None

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

100% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

No information available

**Interactions with Other Chemicals**

No information available.



### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Potassium bromide	7758-02-3	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### 4. FIRST AID MEASURES

#### First aid measures

<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
<b>Skin contact</b>	Wash with soap and water.
<b>Inhalation</b>	Remove to fresh air.
<b>Ingestion</b>	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

#### Most important symptoms and effects, both acute and delayed

**Most Important Symptoms and Effects** Burning sensation.

#### Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

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

### Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific hazards arising from the chemical

No information available.

### Explosion Data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

### 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** Avoid contact with eyes. Use personal protective equipment as required.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

### Environmental precautions

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

### 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** Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE**

Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible Products** None known based on information supplied.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

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 and protective clothing.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical and Chemical Properties

<b>Physical state</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Off white	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		
<b>Property</b>	<b>Values</b>	<b>Remarks</b>	<b>Method</b>
<b>pH</b>	No data available	None known	
<b>Melting / freezing point</b>	No data available	None known	



<b>Boiling point / boiling range</b>	No data available	None known
<b>Flash Point</b>	No data available	None known
<b>Evaporation Rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	No data available	
<b>Lower flammability limit</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Specific Gravity</b>	No data available	None known
<b>Water Solubility</b>	>33g/100ml	None known
<b>Solubility in other solvents</b>	No data available	None known
<b>Partition coefficient: n-octanol/water</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Explosive properties</b>	No data available	
<b>Oxidizing properties</b>	No data available	

**Other Information**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Particle Size</b>	No data available
<b>Particle Size Distribution</b>	

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information****Inhalation**

Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.

**Eye contact**

Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. May cause redness, itching, and pain.

---

<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Component Information****Information on toxicological effects**

**Symptoms** May cause redness and tearing of the eyes.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	No information available.
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target Organ Effects</b>	Eyes.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity Product Information**

The following values are calculated based on chapter 3.1 of the GHS document  
Not applicable

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Potassium bromide 7758-02-3		96h LC50: > 30 mg/L (Pimephales promelas)		96h EC50: > 30 mg/L

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal methods**

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**

Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Codes 141

**14. TRANSPORT INFORMATION**

**DOT**  
 Proper Shipping Name NOT REGULATED  
 Hazard Class NON REGULATED  
 N/A

**TDG** Not regulated

**MEX** Not regulated

**ICAO** Not regulated

**IATA**  
 Proper Shipping Name Not regulated  
 Hazard Class NON REGULATED  
 N/A



<u>IMDG/IMO</u>	Not regulated
Hazard Class	N/A
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

### 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	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

#### CWA (Clean Water Act)

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

#### CERCLA

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

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

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

This product does not contain any substances regulated by state right-to-know regulations.

### International Regulations

Canada  
 WHMIS Hazard Class



Not determined

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	<b>Personal Protection</b> X

<b>Prepared By</b>	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
<b>Issuing Date</b>	02-Jun-2015
<b>Revision Date</b>	02-Jun-2015
<b>Revision Note</b>	No information available

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date 02-Jun-2015

Revision Date 02-Jun-2015

Revision Number 2



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

### Product identifier

Product Name Potassium Iodide

### Other means of identification

Synonyms None

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

Recommended Use Only with proper supervision and according to directions and precautions provided in the corresponding science educational set instructions.

Uses advised against No information available

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

Supplier Name Thames & Kosmos

Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US

Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

Supplier Email products@thamesandkosmos.com

Emergency telephone number (US Poison Control)1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification


This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Specific target organ toxicity (repeated exposure)	Category 1

**GHS Label elements, including precautionary statements**

**Emergency Overview**

<b>Signal word</b>	<b>Danger</b>
<p><b>Hazard Statements</b>                  Harmful if swallowed                  Causes skin irritation                  Causes serious eye irritation                  May cause allergy or asthma symptoms or breathing difficulties if inhaled                  May cause an allergic skin reaction                  Causes damage to organs through prolonged or repeated exposure</p>	
	
<b>Appearance</b> Off white	<b>Physical state</b> Solid
	<b>Odor</b> Odorless

**Precautionary Statements - Prevention**

- Wash face, hands and any exposed skin thoroughly after handling
- Do not eat, drink or smoke when using this product
- Wear protective gloves/protective clothing/eye protection/face protection
- In case of inadequate ventilation wear respiratory protection
- Contaminated work clothing should not be allowed out of the workplace
- Do not breathe dust/fume/gas/mist/vapors/spray
- Wear eye/face protection

**Precautionary Statements - Response**

- Specific treatment (see supplemental first aid instructions on this label)
- Get medical advice/attention if you feel unwell

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
 Take off contaminated clothing and wash before reuse  
 If skin irritation or rash occurs: Get medical advice/attention

**Inhalation**

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing



If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
Rinse mouth

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

**Interactions with Other Chemicals**

No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Potassium iodide	7681-11-0	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### 4. FIRST AID MEASURES

**First aid measures****General Advice**

Show this safety data sheet to the doctor in attendance.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

**Skin contact**

Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

**Inhalation**

Remove to fresh air. Get medical attention immediately if symptoms occur. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use

barrier to give mouth-to-mouth resuscitation.

**Ingestion** Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. If an allergic reaction occurs, stop use and seek medical help right away. Call a physician or poison control center immediately.

**Self-protection of the first aider** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

#### **Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** Burning sensation. Itching. Rashes. Hives. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing.

#### **Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** May cause sensitization of susceptible persons. Treat symptomatically.

### **5. FIRE-FIGHTING MEASURES**

#### **Suitable Extinguishing Media**

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

#### **Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

#### **Specific hazards arising from the chemical**

Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.

#### **Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

#### **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** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

### Environmental precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

### 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** Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

**Incompatible Products** Strong acids. Strong oxidizing agents. Strong bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium iodide 7681-11-0	TWA: 0.01 ppm inhalable fraction and vapor	-	

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health

### Appropriate engineering controls



**Engineering Measures**  
 Showers  
 Eyewash stations  
 Ventilation systems

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

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical and Chemical Properties**

<b>Physical state</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Off white	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	No data available	None known	
Water Solubility	Slightly soluble	None known	
Solubility in other solvents	No data available	None known	
Partition coefficient: n-octanol/water	No data available	None known	
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	No data available	None known	
Explosive properties	No data available		
Oxidizing properties	No data available		

**Other Information**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Particle Size</b>	No data available



**Particle Size Distribution****10. STABILITY AND REACTIVITY****Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

Strong acids. Strong oxidizing agents. Strong bases.

**Hazardous Decomposition Products**

None known based on information supplied.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Product Information****Inhalation**

Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. May cause sensitization of susceptible persons.

**Eye contact**

Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. May cause redness, itching, and pain.

**Skin contact**

Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to skin. Prolonged contact may cause redness and irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

**Ingestion**

Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components). May cause additional affects as listed under "Inhalation".

**Component Information****Information on toxicological effects****Symptoms**

Erythema (skin redness). May cause redness and tearing of the eyes. Itching. Rashes. Hives. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

---

<b>Sensitization</b>	May cause sensitization of susceptible persons. May cause sensitization by skin contact. May cause sensitization by inhalation.
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).
<b>Chronic Toxicity</b>	Prolonged exposure may cause chronic effects. Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
<b>Target Organ Effects</b>	Respiratory system. Eyes. Skin. Endocrine system. Systemic Toxicity. Thyroid.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity Product Information**

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

**ATEmix (oral)**  
500.00 mg/kg

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Disposal methods** 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** Dispose of contents/containers in accordance with local regulations.

**California Hazardous Waste Codes** 141

### 14. TRANSPORT INFORMATION

**DOT**  
**Proper Shipping Name** NOT REGULATED  
**Hazard Class** NON REGULATED  
 N/A

**TDG** Not regulated

**MEX** Not regulated

**ICAO** Not regulated

**IATA**  
**Proper Shipping Name** Not regulated  
**Hazard Class** NON REGULATED  
 N/A

**IMDG/IMO**  
**Hazard Class** Not regulated  
 N/A

**RID** Not regulated

**ADR** Not regulated

**ADN** Not regulated

### 15. REGULATORY INFORMATION

#### International Inventories

**TSCA** Complies  
**DSL** All components are listed either on the DSL or NDSL.

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

#### 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	Yes
Chronic Health Hazard	Yes
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

**CWA (Clean Water Act)**

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

**CERCLA**

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

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

This product does not contain any substances regulated by state right-to-know regulations.

**International Regulations**

**Canada**

**WHMIS Hazard Class**

Not determined

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 2 *	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	<b>Personal Protection</b> X

**Chronic Hazard Star Legend** \* = Chronic Health Hazard

**Prepared By** Product Stewardship  
 23 British American Blvd.  
 Latham, NY 12110  
 1-800-572-6501

**Issuing Date** 02-Jun-2015  
**Revision Date** 02-Jun-2015  
**Revision Note** No information available

**Disclaimer**



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**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date 02-Jun-2015

Revision Date 02-Jun-2015

Revision Number 2



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

### Product identifier

**Product Name** Sodium Thiosulfate

### Other means of identification

**Synonyms** None

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

**Recommended Use** Only with proper supervision and according to directions and precautions provided in the corresponding science educational set instructions.

**Uses advised against** No information available

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

**Supplier Name** Thames & Kosmos

**Supplier Address** 301 Friendship Street  
Providence  
RI  
02903  
US

**Supplier Phone Number** Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

**Supplier Email** products@thamesandkosmos.com

**Emergency telephone number** (US Poison Control) 1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



**GHS Label elements, including precautionary statements**

**Emergency Overview**

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Appearance** Colorless

**Physical state** Solid

**Odor** Odorless

**Precautionary Statements - Prevention**

Obtain special instructions before use

**Precautionary Statements - Response**

None

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

None

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

100% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

May cause slight eye irritation

**Interactions with Other Chemicals**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**4. FIRST AID MEASURES**

**First aid measures**

**Eye contact**

Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

**Skin contact**

Wash with soap and water.



Inhalation	Remove to fresh air.
Ingestion	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

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

**Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

No information available.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**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** Avoid contact with eyes.

**Environmental precautions**

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

**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** Pick up and transfer to properly labeled containers.



**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice.

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

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible Products** None known based on information supplied.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

**Appropriate engineering controls**

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/face protection** No special protective equipment required.

**Skin and body protection** No special protective equipment required.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<b>Physical state</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Colorless	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks</u></b>	<b><u>Method</u></b>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	



Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	>33g/100ml	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing properties	No data available	

**Other Information**

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

<b>Product Information</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Dust contact with the eyes can lead to mechanical irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.



**Ingestion** Specific test data for the substance or mixture is not available.

#### Component Information

#### Information on toxicological effects

**Symptoms** No information available.

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organ Effects** None known.

**Aspiration Hazard** No information available.

#### Numerical measures of toxicity Product Information

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

Not applicable

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

The environmental impact of this product has not been fully investigated.

#### Persistence and Degradability

No information available.

#### Bioaccumulation

No information available

#### Other adverse effects

No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Disposal methods** 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** Dispose of contents/containers in accordance with local regulations.

**California Hazardous Waste Codes** 141

### 14. TRANSPORT INFORMATION

<u>DOT</u> Proper Shipping Name Hazard Class	NOT REGULATED NON REGULATED N/A
----------------------------------------------------	---------------------------------------

<u>TDG</u>	Not regulated
------------	---------------

<u>MEX</u>	Not regulated
------------	---------------

<u>ICAO</u>	Not regulated
-------------	---------------

<u>IATA</u> Proper Shipping Name Hazard Class	Not regulated NON REGULATED N/A
-----------------------------------------------------	---------------------------------------

<u>IMDG/IMO</u> Hazard Class	Not regulated N/A
---------------------------------	----------------------

<u>RID</u>	Not regulated
------------	---------------

<u>ADR</u>	Not regulated
------------	---------------

<u>ADN</u>	Not regulated
------------	---------------

### 15. REGULATORY INFORMATION

#### International Inventories

TSCA DSL	Complies All components are listed either on the DSL or NDSL.
-------------	------------------------------------------------------------------

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

#### 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**

This product does not contain any Proposition 65 chemicals.

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

This product does not contain any substances regulated by state right-to-know regulations.

**International Regulations****Canada****WHMIS Hazard Class**

Not determined

<b>16. OTHER INFORMATION</b>
------------------------------

<b>NFPA</b>	<b>Health Hazards</b> 1	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 1	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	<b>Personal Protection</b> X

<b>Prepared By</b>	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
<b>Issuing Date</b>	02-Jun-2015
<b>Revision Date</b>	02-Jun-2015
<b>Revision Note</b>	No information available

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date 27-May-2015

Revision Date 27-May-2015

Revision Number 3



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

### Product identifier

Product Name Sodium Hydrogen Sulfate

### Other means of identification

Synonyms None

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

Recommended Use Only with proper supervision and according to directions and precautions provided in the corresponding science educational set instructions.

Uses advised against No information available

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

Supplier Name Thames & Kosmos

Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US

Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

Supplier Email products@thamesandkosmos.com

Emergency telephone number (US Poison Control) 1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)



Serious eye damage/eye irritation	Category 1
-----------------------------------	------------

**GHS Label elements, including precautionary statements**

**Emergency Overview**

<b>Signal word</b>	<b>Danger</b>	
<b>Hazard Statements</b> Causes serious eye damage		
		
<b>Appearance</b> Off white	<b>Physical state</b> Solid	<b>Odor</b> Odorless

**Precautionary Statements - Prevention**

Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor/physician

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

None

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

May be harmful if swallowed

**Interactions with Other Chemicals**

No information available.



### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Sodium hydrogen sulfate, monohydrate	10034-88-5	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### 4. FIRST AID MEASURES

#### First aid measures

<b><u>General Advice</u></b>	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Seek immediate medical attention/advice.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

#### Most important symptoms and effects, both acute and delayed

**Most Important Symptoms and Effects** Burning sensation.

#### Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

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

### Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific hazards arising from the chemical

No information available.

#### **Uniform Fire Code**

Irritant: Solid

### Hazardous Combustion Products

Carbon oxides.

### Explosion Data

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

### 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**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

#### **Other Information**

Refer to protective measures listed in Sections 7 and 8.

### Environmental precautions

#### **Environmental precautions**

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

### 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**

Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. 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 locked up. Keep out of the reach of children.

**Incompatible Products** Strong oxidizing agents. Strong acids. Strong bases.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

**Appropriate engineering controls**

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear protective gloves and protective clothing.

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<b>Physical state</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Off white	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks</u></b>	<b><u>Method</u></b>
<b>pH</b>	No data available	None known	
<b>Melting / freezing point</b>	No data available	None known	



<b>Boiling point / boiling range</b>	No data available	None known
<b>Flash Point</b>	No data available	None known
<b>Evaporation Rate</b>	No data available	None known
<b>Flammability (solid, gas)</b>	No data available	None known
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	No data available	
<b>Lower flammability limit</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Specific Gravity</b>	No data available	None known
<b>Water Solubility</b>	Practically insoluble (0.1g/100ml)	None known
<b>Solubility in other solvents</b>	No data available	None known
<b>Partition coefficient: n-octanol/water</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Explosive properties</b>	No data available	
<b>Oxidizing properties</b>	No data available	

**Other Information**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Particle Size</b>	No data available
<b>Particle Size Distribution</b>	

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

Strong oxidizing agents. Strong acids. Strong bases.

**Hazardous Decomposition Products**

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information****Inhalation**

Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.



<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes. (based on components).
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium hydrogen sulfate, monohydrate 10034-88-5	= 2490 mg/kg ( Rat )	-	-

**Information on toxicological effects**

**Symptoms** Erythema (skin redness). May cause blindness. Burning.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	No information available.
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Chronic Toxicity</b>	No known effect based on information supplied.
<b>Target Organ Effects</b>	Eyes.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity Product Information**

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

ATEmix (oral)  
2,490.00 mg/kg

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

### Persistence and Degradability

No information available.

### Bioaccumulation

No information available

### Other adverse effects

No information available.

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### Disposal methods

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

Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Codes 141

## 14. TRANSPORT INFORMATION

<u>DOT</u>	NOT REGULATED
Proper Shipping Name	NON REGULATED
Hazard Class	N/A

<u>TDG</u>	Not regulated
------------	---------------

<u>MEX</u>	Not regulated
------------	---------------

<u>ICAO</u>	Not regulated
-------------	---------------

<u>IATA</u>	Not regulated
Proper Shipping Name	NON REGULATED
Hazard Class	N/A

<u>IMDG/IMO</u>	Not regulated
Hazard Class	N/A

<u>RID</u>	Not regulated
------------	---------------



**ADR** Not regulated

**ADN** Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

**TSCA** Complies  
**DSL** All components are listed either on the DSL or NDSL.

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

### US Federal Regulations

#### SARA 313

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

#### SARA 311/312 Hazard Categories

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

#### CWA (Clean Water Act)

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

#### CERCLA

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

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

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

This product does not contain any substances regulated by state right-to-know regulations.

### International Regulations

#### **Canada**

#### **WHMIS Hazard Class**

Non-controlled

## 16. OTHER INFORMATION



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<b>NFPA</b>	<b>Health Hazards</b>	3	<b>Flammability</b>	0	<b>Instability</b>	0	<b>Physical and Chemical Hazards</b>	-
<b>HMS</b>	<b>Health Hazards</b>	3	<b>Flammability</b>	0	<b>Physical Hazard</b>	0	<b>Personal Protection</b>	X

<b>Prepared By</b>	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
<b>Issuing Date</b>	27-May-2015
<b>Revision Date</b>	27-May-2015
<b>Revision Note</b>	No information available

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of Safety Data Sheet**



## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Revision Date 06.08.2013

Version 15.0

### SECTION 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

Catalogue No. 102110  
Product name Calcium hydroxide suitable for use as excipient EMPROVE® exp Ph  
Eur,BP,USP,JP,FCC  
REACH Registration Number 01-2119475151-45-XXXX

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

Identified uses Pharmaceutical production, Food and pharmaceutical industry,  
Cosmetic raw material  
In compliance with the conditions described in the annex to this safety  
data sheet.

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

Company Merck KGaA \* 64271 Darmstadt \* Germany \* Phone:+49 6151 72-0  
Responsible Department EQ-RS \* e-mail: prodsafe@merckgroup.com

#### 1.4 Emergency telephone number

Please contact the regional company representation in your country.

### SECTION 2. Hazards identification

#### 2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Serious eye damage, Category 1, H318  
Skin irritation, Category 2, H315  
Specific target organ toxicity - single exposure, Category 3, H335  
For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification (67/548/EEC or 1999/45/EC)  
Xi Irritant R37/38 - 41  
For the full text of the R-phrases mentioned in this Section, see Section 16.

#### 2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

*Hazard pictograms*



*Signal word*  
Danger

**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006

Catalogue No. 102110  
Product name Calcium hydroxide suitable for use as excipient EMPROVE® exp Ph  
Eur,BP,USP,JP,FCC

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*Hazard statements*

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.

*Precautionary statements*

Prevention

P260 Do not breathe dust.  
P280 Wear eye protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P313 Get medical advice/ attention.

CAS-No. 1305-62-0

2.3 Other hazards

PBT/vPvB: Not applicable for inorganic substances

---

**SECTION 3. Composition/information on ingredients**

Chemical nature Slaked lime.

3.1 Substance

Formula	Ca(OH) <sub>2</sub>	H <sub>2</sub> CaO <sub>2</sub> (Hill)
CAS-No.	1305-62-0	
EC-No.	215-137-3	
Molar mass	74,09 g/mol	

**Hazardous components (REGULATION (EC) No 1272/2008)**

*Chemical Name (Concentration)*

CAS-No.	Registration number	Classification
---------	---------------------	----------------

Calcium hydroxide (<= 100 %)

*PBT/vPvB: Not applicable for inorganic substances*

1305-62-0	01-2119475151-45-XXXX	Serious eye damage, Category 1, H318 Skin irritation, Category 2, H315 Specific target organ toxicity - single exposure, Category 3, H335
-----------	-----------------------	-------------------------------------------------------------------------------------------------------------------------------------------------

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Hazardous components (1999/45/EC)**

*Chemical Name (Concentration)*

CAS-No.	Classification
---------	----------------

Calcium hydroxide (<= 100 %)

1305-62-0	Xi, Irritant; R37/38-41
-----------	-------------------------

For the full text of the R-phrases mentioned in this Section, see Section 16.

3.2 Mixture

not applicable

**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006

Catalogue No. 102110  
Product name Calcium hydroxide suitable for use as excipient EMPROVE® exp Ph  
Eur,BP,USP,JP,FCC

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---

**SECTION 4. First aid measures**

**4.1 Description of first aid measures**

After inhalation: fresh air.

After skin contact: wash off with plenty of water. Remove contaminated clothing.

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

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

Irritation and corrosion, Cough, Shortness of breath

Risk of corneal clouding.

Risk of serious damage to eyes.

Risk of blindness!

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

No information available.

---

**SECTION 5. Firefighting measures**

**5.1 Extinguishing media**

*Suitable extinguishing media*

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

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

**5.2 Special hazards arising from the substance or mixture**

Not combustible.

**5.3 Advice for firefighters**

*Special protective equipment for firefighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Prevent fire extinguishing water from contaminating surface water or the ground water system.

---

**SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

**6.2 Environmental precautions**

Do not empty into drains.

**6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

---

**SAFETY DATA SHEET**  
according to Regulation (EC) No. 1907/2006

Catalogue No. 102110  
Product name Calcium hydroxide suitable for use as excipient EMPROVE® exp Ph  
Eur,BP,USP,JP,FCC

---

Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections  
Indications about waste treatment see section 13.

---

**SECTION 7. Handling and storage**

**7.1 Precautions for safe handling**

*Advice on safe handling*

Observe label precautions.

*Hygiene measures*

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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

*Storage conditions*

Requirements for storage areas and containers

Do not use light-weight-metal containers.

Tightly closed. Dry.

Storage temperature: no restrictions.

**7.3 Specific end use(s)**

See exposure scenario in the Annex to this MSDS.

---

**SECTION 8. Exposure controls/personal protection**

**8.1 Control parameters**

**Derived No Effect Level (DNEL)**

Worker DNEL, acute	Local effects	inhalation	4 mg/m <sup>3</sup>
Worker DNEL, longterm	Local effects	inhalation	1 mg/m <sup>3</sup>
Consumer DNEL, acute	Local effects	inhalation	4 mg/m <sup>3</sup>
Consumer DNEL, longterm	Local effects	inhalation	1 mg/m <sup>3</sup>

**Predicted No Effect Concentration (PNEC)**

PNEC Fresh water	0,49 mg/l
PNEC Marine water	0,32 mg/l
PNEC Aquatic intermittent release	0,49 mg/l
PNEC Soil	1080 mg/kg
PNEC Sewage treatment plant	3 mg/l

**8.2 Exposure controls**

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Catalogue No. 102110  
Product name Calcium hydroxide suitable for use as excipient EMPROVE® exp Ph  
Eur,BP,USP,JP,FCC

---

## Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

### *Eye/face protection*

Tightly fitting safety goggles

### *Hand protection*

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0,11 mm
Break through time:	> 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 741 Dermatril® L (full contact), KCL 741 Dermatril® L (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet (>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

### *Other protective equipment*

protective clothing

### *Respiratory protection*

required when dusts are generated.

Recommended Filter type: Filter P 2 (acc. to DIN 3181) for solid and liquid particles of harmful substances

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

### Environmental exposure controls

Do not empty into drains.

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## SECTION 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	solid
Colour	white
Odour	odourless
Odour Threshold	not applicable

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pH	12,6 at 20 °C (saturated solution)
Melting point	550 °C (decomposition)
Boiling point	No information available.
Flash point	does not flash
Evaporation rate	No information available.
Flammability (solid, gas)	The product is not flammable.
Lower explosion limit	not applicable
Upper explosion limit	not applicable
Vapour pressure	at 20 °C not applicable
Relative vapour density	No information available.
Relative density	2,24 g/cm <sup>3</sup> at 20 °C
Water solubility	1,7 g/l at 20 °C
Partition coefficient: n- octanol/water	not applicable
Auto-ignition temperature	No information available.
Decomposition temperature	550 - 600 °C
Viscosity, dynamic	No information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none
<b>9.2 Other data</b>	
Ignition temperature	not combustible
Bulk density	ca.400 kg/m <sup>3</sup>

---

**SECTION 10. Stability and reactivity**

**10.1 Reactivity**

exothermic dissolution process with water

**10.2 Chemical stability**

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sensitive to moisture

**10.3 Possibility of hazardous reactions**

Exothermic reaction with:

hydrogen sulphide, Light metals, phosphorus, organic nitro compounds, acids

Risk of explosion with:

anhydrides

**10.4 Conditions to avoid**

Exposure to moisture.

**10.5 Incompatible materials**

Light metals

**10.6 Hazardous decomposition products**

no information available

---

**SECTION 11. Toxicological information**

**11.1 Information on toxicological effects**

*Acute oral toxicity*

LD50 rat: 7.340 mg/kg (IUCLID)

Symptoms: Irritations of:, Gastrointestinal tract

*Acute inhalation toxicity*

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

*Acute dermal toxicity*

This information is not available.

*Skin irritation*

rabbit

Result: No irritation

OECD Test Guideline 404

in case of perspiration/moisture corrosive.

Causes skin irritation.

*Eye irritation*

rabbit

Result: Severe irritations

(RTECS)

Risk of corneal clouding. Risk of blindness!

Causes serious eye damage.

*Sensitisation*

This information is not available.

*Germ cell mutagenicity*

This information is not available.

*Carcinogenicity*

This information is not available.

*Reproductive toxicity*

This information is not available.

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*Teratogenicity*

This information is not available.

*Specific target organ toxicity - single exposure*

May cause respiratory irritation.

*Specific target organ toxicity - repeated exposure*

This information is not available.

*Aspiration hazard*

This information is not available.

11.2 Further information

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

---

SECTION 12. Ecological information

12.1 Toxicity

*Toxicity to fish*

LC50 *Gambusia affinis* (Mosquito fish): 160 mg/l; 96 h (IUCLID)

12.2 Persistence and degradability

*Biodegradability*

The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

*Partition coefficient: n-octanol/water*

not applicable

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT/vPvB: Not applicable for inorganic substances

12.6 Other adverse effects

*Additional ecological information*

Biological effects:

Harmful effect due to pH shift. Forms corrosive mixtures with water even if diluted. Neutralisation possible in waste water treatment plants.

Further information on ecology

Discharge into the environment must be avoided.

---

SECTION 13. Disposal considerations

*Waste treatment methods*

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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SECTION 14. Transport information

Land transport (ADR/RID)

14.1 - 14.6

Not classified as dangerous in the meaning of transport regulations.

Inland waterway transport (ADN)

Not relevant

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### Air transport (IATA)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

### Sea transport (IMDG)

14.1 - 14.6 Not classified as dangerous in the meaning of transport regulations.

### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

---

## SECTION 15. Regulatory information

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

#### *EU regulations*

Major Accident Hazard 96/82/EC  
Legislation Directive 96/82/EC does not apply

Occupational restrictions Take note of Dir 94/33/EC on the protection of young people at work.

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer not regulated

Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC not regulated

Regulation (EC) No 689/2008 concerning the export and import of dangerous chemicals not regulated

Substances of very high concern (SVHC) This product does not contain substances of very high concern above the respective regulatory limit (> 0.1 % (w/w) Regulation (EC) No 1907/2006 (REACH), Article 57).

#### *National legislation*

Storage class 10 - 13

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has been carried out for this substance.

---

## SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.

Full text of R-phrases referred to under sections 2 and 3

R37/38 Irritating to respiratory system and skin.  
R41 Risk of serious damage to eyes.

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**Training advice**

Provide adequate information, instruction and training for operators.

**Labelling (67/548/EEC or 1999/45/EC)**

<i>Symbol(s)</i>	 Xi	Irritant
<i>R-phrase(s)</i>	37/38-41	Irritating to respiratory system and skin. Risk of serious damage to eyes.
<i>S-phrase(s)</i>	22-26-39	Do not breathe dust. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.
<b>EC-No.</b>	215-137-3	
<b>Reduced labelling (≤125 ml)</b>		
<i>Symbol(s)</i>	 Xi	Irritant
<i>R-phrase(s)</i>	41	Risk of serious damage to eyes.
<i>S-phrase(s)</i>	26-39	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear eye/face protection.

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

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

**Regional representation**

This information is given on the authorised Safety Data Sheet for your country.

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*The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.*

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**EXPOSURE SCENARIO 1 (Industrial use)**

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**1. Industrial use (Pharmaceutical production, Food and pharmaceutical industry, Cosmetic raw material)**

**Sectors of end-use**

*SU 3* Industrial uses: Uses of substances as such or in preparations at industrial sites  
*SU 10* Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)

**Chemical product category**

*PC19* Intermediate  
*PC39* Cosmetics, personal care products

**Process categories**

*PROC1* Use in closed process, no likelihood of exposure  
*PROC2* Use in closed, continuous process with occasional controlled exposure  
*PROC3* Use in closed batch process (synthesis or formulation)  
*PROC4* Use in batch and other process (synthesis) where opportunity for exposure arises  
*PROC5* Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)  
*PROC8a* Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities  
*PROC8b* Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities  
*PROC9* Transfer of substance or preparation into small containers (dedicated filling line, including weighing)  
*PROC14* Production of preparations or articles by tableting, compression, extrusion, pelletisation  
*PROC15* Use as laboratory reagent

**Environmental Release Categories**

*ERC1* Manufacture of substances  
*ERC2* Formulation of preparations  
*ERC4* Industrial use of processing aids in processes and products, not becoming part of articles  
*ERC6a* Industrial use resulting in manufacture of another substance (use of intermediates)  
*ERC6b* Industrial use of reactive processing aids

---

**2. Contributing scenarios: Operational conditions and risk management measures**

**2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC4, ERC6a, ERC6b**

**Technical conditions and measures / Organizational measures**

Water Solutions with high pH-value must be neutralized before discharge.

---

**2.2 Contributing scenario controlling worker exposure for: PROC1**

**Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 %.  
Physical Form (at time of use) Solid, high dustiness

**Frequency and duration of use**

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Frequency of use 8 hours/day

**Other operational conditions affecting workers exposure**

Outdoor / Indoor Indoor without local exhaust ventilation (LEV)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Covers daily exposures up to 8 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374), coverall and eye protection.

---

**2.3 Contributing scenario controlling worker exposure for: PROC2, PROC3**

**Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 %.

Physical Form (at time of use) Solid, high dustiness

**Frequency and duration of use**

Frequency of use 8 hours/day

**Other operational conditions affecting workers exposure**

Outdoor / Indoor Indoor with local exhaust ventilation (LEV)

**Technical conditions and measures**

Use only in area provided with appropriate exhaust ventilation.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Covers daily exposures up to 8 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374), coverall and eye protection.

---

**2.4 Contributing scenario controlling worker exposure for: PROC4, PROC5, PROC8b, PROC9**

**Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 %.

Physical Form (at time of use) Solid, high dustiness

**Frequency and duration of use**

Frequency of use 8 hours/day

**Other operational conditions affecting workers exposure**

Outdoor / Indoor Indoor with local exhaust ventilation (LEV)

**Technical conditions and measures**

Use only in area provided with appropriate exhaust ventilation.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Covers daily exposures up to 8 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

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Wear suitable gloves (tested to EN374), coverall and eye protection.

Wear respiratory protection. Effectiveness (of a measure): 90 %

---

**2.5 Contributing scenario controlling worker exposure for: PROC8a**

**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Solid, high dustiness

**Frequency and duration of use**

Frequency of use	< 4 hours/day
------------------	---------------

**Other operational conditions affecting workers exposure**

Outdoor / Indoor	Indoor with local exhaust ventilation (LEV)
------------------	---------------------------------------------

**Technical conditions and measures**

Use only in area provided with appropriate exhaust ventilation.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Avoid carrying out operation for more than 4 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374), coverall and eye protection.

Wear respiratory protection. Effectiveness (of a measure): 90 %

---

**2.6 Contributing scenario controlling worker exposure for: PROC14, PROC15, PROC26**

**Product characteristics**

Concentration of the Substance in Mixture/Article	Covers the percentage of the substance in the product up to 100 %.
Physical Form (at time of use)	Solid, high dustiness

**Frequency and duration of use**

Frequency of use	8 hours/day
------------------	-------------

**Other operational conditions affecting workers exposure**

Outdoor / Indoor	Indoor with local exhaust ventilation (LEV)
------------------	---------------------------------------------

**Technical conditions and measures**

Use only in area provided with appropriate exhaust ventilation.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Covers daily exposures up to 8 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374), coverall and eye protection.

Wear respiratory protection. Effectiveness (of a measure): 75 %

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**2.7 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC15**

**Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 %.  
Physical Form (at time of use) Solid, low dustiness, Aqueous solution

**Frequency and duration of use**

Frequency of use 8 hours/day

**Other operational conditions affecting workers exposure**

Outdoor / Indoor Indoor without local exhaust ventilation (LEV)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Covers daily exposures up to 8 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374), coverall and eye protection.

---

**2.8 Contributing scenario controlling worker exposure for: PROC14**

**Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 %.  
Physical Form (at time of use) Solid, low dustiness, Aqueous solution

**Frequency and duration of use**

Frequency of use 8 hours/day

**Other operational conditions affecting workers exposure**

Outdoor / Indoor Indoor without local exhaust ventilation (LEV)

**Organisational measures to prevent /limit releases, dispersion and exposure**

Covers daily exposures up to 8 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374), coverall and eye protection.

---

**2.9 Contributing scenario controlling worker exposure for: PROC26**

**Product characteristics**

Concentration of the Substance in Mixture/Article Covers the percentage of the substance in the product up to 100 %.  
Physical Form (at time of use) Solid, low dustiness

**Frequency and duration of use**

Frequency of use 8 hours/day

**Other operational conditions affecting workers exposure**

Outdoor / Indoor Indoor with local exhaust ventilation (LEV)

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Catalogue No. 102110  
Product name Calcium hydroxide suitable for use as excipient EMPROVE® exp Ph  
Eur,BP,USP,JP,FCC

**Technical conditions and measures**

Use only in area provided with appropriate exhaust ventilation.

**Organisational measures to prevent /limit releases, dispersion and exposure**

Covers daily exposures up to 8 hours.

**Conditions and measures related to personal protection, hygiene and health evaluation**

Wear suitable gloves (tested to EN374), coverall and eye protection.

**3. Exposure estimation and reference to its source**

**Environment**

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1			All compartments		Qualitative assessment used to conclude safe use.

**Workers**

CS	Use descriptor	Exposure duration, route, effect	RCR	Exposure Assessment Method
2.2	PROC1	longterm, inhalative, local	0,01	MEASE
2.3	PROC2	longterm, inhalative, local	0,22	MEASE
2.3	PROC3	longterm, inhalative, local	0,22	MEASE
2.4	PROC4	longterm, inhalative, local	0,55	MEASE
2.4	PROC5	longterm, inhalative, local	0,55	MEASE
2.4	PROC8b	longterm, inhalative, local	0,55	MEASE
2.4	PROC9	longterm, inhalative, local	0,44	MEASE
2.5	PROC8a	longterm, inhalative, local	0,66	MEASE
2.6	PROC14	longterm, inhalative, local	0,55	MEASE
2.6	PROC15	longterm, inhalative, local	0,275	MEASE
2.6	PROC26	longterm, inhalative, local	0,55	MEASE
2.7	PROC1	longterm, inhalative, local	0,01	MEASE
2.7	PROC2	longterm, inhalative, local	0,01	MEASE
2.7	PROC3	longterm, inhalative, local	0,1	MEASE
2.7	PROC4	longterm, inhalative, local	0,5	MEASE
2.7	PROC5	longterm, inhalative, local	0,5	MEASE
2.7	PROC8a	longterm, inhalative, local	0,5	MEASE
2.7	PROC8b	longterm, inhalative, local	0,1	MEASE
2.7	PROC9	longterm, inhalative, local	0,1	MEASE
2.7	PROC15	longterm, inhalative, local	0,1	MEASE
2.8	PROC14	longterm, inhalative, local	0,1	MEASE
2.9	PROC26	longterm, inhalative, local	0,33	MEASE

The default parameters and -efficiencies of the applied exposure assessment model were used for the calculation (unless stated differently).

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users;

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ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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Product name Calcium hydroxide suitable for use as excipient EMPROVE® exp Ph  
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**EXPOSURE SCENARIO 2 (Professional use)**

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**1. Professional use (Pharmaceutical production, Food and pharmaceutical industry, Cosmetic raw material)**

**Sectors of end-use**

*SU 22* Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

**Chemical product category**

*PC39* Cosmetics, personal care products

**Environmental Release Categories**

*ERC8a* Wide dispersive indoor use of processing aids in open systems

*ERC8d* Wide dispersive outdoor use of processing aids in open systems

---

**2. Contributing scenarios: Operational conditions and risk management measures**

**2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d**

**Technical conditions and measures / Organizational measures**

Water Solutions with high pH-value must be neutralized before discharge.

---

**3. Exposure estimation and reference to its source**

**Environment**

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1			All compartments		Qualitative assessment used to conclude safe use.

---

In accordance with REACH Article 14(5b), exposure estimations and risk characterizations for human health do not need to be performed for uses of substances in cosmetic products which are under the scope of Directive 76/768/EEC.

---

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

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**EXPOSURE SCENARIO 3 (Consumer use)**

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**1. Consumer use (Pharmaceutical production, Food and pharmaceutical industry, Cosmetic raw material)**

**Sectors of end-use**

*SU 21* Consumer uses: Private households (= general public = consumers)

**Chemical product category**

*PC39* Cosmetics, personal care products

**Environmental Release Categories**

*ERC8a* Wide dispersive indoor use of processing aids in open systems

*ERC8d* Wide dispersive outdoor use of processing aids in open systems

---

**2. Contributing scenarios: Operational conditions and risk management measures**

**2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems**

---

**3. Exposure estimation and reference to its source**

**Environment**

CS	Use descriptor	Msafe	Compartment	RCR	Exposure Assessment Method
2.1			All compartments		Qualitative assessment used to conclude safe use.

---

In accordance with REACH Article 14(5b), exposure estimations and risk characterizations for human health do not need to be performed for uses of substances in cosmetic products which are under the scope of Directive 76/768/EEC.

---

**4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario**

Please refer to the following documents: ECHA Guidance on information requirements and chemical safety assessment Chapter R.12: Use descriptor system; ECHA Guidance for downstream users; ECHA Guidance on information requirements and chemical safety assessment Part D: Exposure Scenario Building, Part E: Risk Characterisation and Part G: Extending the SDS; VCI/Cefic REACH Practical Guides on Exposure Assessment and Communications in the Supply Chain; CEFIC Guidance Specific Environmental Release Categories (SPERCs).

# SAFETY DATA SHEET

Issuing Date No data available

Revision Date 24-Sep-2014

Revision Number 1



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

### Product identifier

**Product Name** Potassium Hexacyanoferrate (II)

### Other means of identification

**Synonyms** Potassium Ferrocyanide, (Yellow) Prussiate of Potash

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

**Recommended Use** Use only with proper supervision and according to directions and precautions provided in the corresponding science education set instructions.

**Uses advised against** No information available

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

**Supplier Name** Thames & Kosmos

**Supplier Address** 301 Friendship Street  
Providence  
RI  
02903  
US

**Supplier Phone Number** Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

**Supplier Email** products@thamesandkosmos.com

**Emergency telephone number** (US Poison Control) 1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



**GHS Label elements, including precautionary statements**

**Emergency Overview**

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Appearance** Light yellow                      **Physical state** Solid/Powder Solid                      **Odor** Odorless

**Precautionary Statements - Prevention**

Obtain special instructions before use

**Precautionary Statements - Response**

None

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

None

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

0 % of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

May be harmful if swallowed  
 Harmful to aquatic life with long lasting effects  
 May cause slight eye irritation

**Interactions with Other Chemicals**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No	Weight-%	Trade Secret
Potassium ferrocyanide	14459-95-1	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

**4. FIRST AID MEASURES**

**First aid measures**



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<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.
<b>Skin contact</b>	Wash with soap and water.
<b>Inhalation</b>	Remove to fresh air.
<b>Ingestion</b>	Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

No information available.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**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** Avoid contact with eyes.

**Environmental precautions**

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

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

**Methods for containment** Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

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

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible Products** None known based on information supplied.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium ferrocyanide 14459-95-1	TWA: 1 mg/m <sup>3</sup> Fe	TWA: 5 mg/m <sup>3</sup> CN (vacated) TWA: 1 mg/m <sup>3</sup> Fe (vacated) TWA: 5 mg/m <sup>3</sup> S*	IDLH: 25 mg/m <sup>3</sup> CN TWA: 1 mg/m <sup>3</sup> Fe

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

**Appropriate engineering controls**

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems



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

<b>Eye/face protection</b>	No special protective equipment required.
<b>Skin and body protection</b>	No special protective equipment required.
<b>Respiratory protection</b>	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
<b>Hygiene Measures</b>	Handle in accordance with good industrial hygiene and safety practice.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Physical and Chemical Properties**

<b>Physical state</b>	Solid/Powder, Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Light yellow	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks</u></b>	<b><u>Method</u></b>
<b>pH</b>	No data available	None known	
<b>Melting / freezing point</b>	No data available	None known	
<b>Boiling point / boiling range</b>	No data available	None known	
<b>Flash Point</b>	No data available	None known	
<b>Evaporation Rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limit in Air</b>			
<b>Upper flammability limit</b>	No data available		
<b>Lower flammability limit</b>	No data available		
<b>Vapor pressure</b>	No data available	None known	
<b>Vapor density</b>	No data available	None known	
<b>Specific Gravity</b>	No data available	None known	
<b>Water Solubility</b>	3g/100ml	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient: n-octanol/water</b>	No data available	None known	
<b>Autoignition temperature</b>	No data available	None known	
<b>Decomposition temperature</b>	No data available	None known	
<b>Kinematic viscosity</b>	No data available	None known	
<b>Dynamic viscosity</b>	No data available	None known	
<b>Explosive properties</b>	No data available		
<b>Oxidizing properties</b>	No data available		

**Other Information**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Particle Size</b>	No data available
<b>Particle Size Distribution</b>	

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

None known based on information supplied.

### Incompatible materials

None known based on information supplied.

### Hazardous Decomposition Products

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.

#### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium ferrocyanide 14459-95-1	= 3613 mg/kg ( Rat )	-	-

### Information on toxicological effects

**Symptoms** No information available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Chronic Toxicity** No known effect based on information supplied.

**Target Organ Effects** Eyes. Gastrointestinal tract (GI). Liver. Respiratory system. Skin.

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

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

**ATEmix (oral)**  
3,613.00 mg/kg

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**  
Harmful to aquatic life with long lasting effects.

**Persistence and Degradability**  
No information available.

**Bioaccumulation**  
No information available

**Other adverse effects**  
No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal methods** 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** Dispose of contents/containers in accordance with local regulations.

**California Hazardous Waste Codes** 141

**14. TRANSPORT INFORMATION**

**DOT** NOT REGULATED  
**Proper Shipping Name** NON REGULATED



<b>Hazard Class</b>	N/A
<b><u>TDG</u></b> Marine Pollutant	Not regulated This product contains a chemical which is listed as a marine pollutant according to TDG.
<b><u>MEX</u></b>	Not regulated
<b><u>ICAO</u></b>	Not regulated
<b><u>IATA</u></b> Proper Shipping Name Hazard Class	Not regulated NON REGULATED N/A
<b><u>IMDG/IMO</u></b> Hazard Class Marine Pollutant	Not regulated N/A This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO Product is a marine pollutant according to the criteria set by IMDG/IMO
<b><u>RID</u></b>	Not regulated
<b><u>ADR</u></b>	Not regulated
<b><u>ADN</u></b>	Not regulated

**15. REGULATORY INFORMATION**

**International Inventories**

TSCA Complies  
 DSL All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

**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	CAS No	Weight-%	SARA 313 - Threshold Values %
Potassium ferrocyanide - 14459-95-1	14459-95-1	60 - 100	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)**

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
Potassium ferrocyanide		X		



14459-95-1				
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**CERCLA**

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

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Potassium ferrocyanide 14459-95-1			X	X	X

**International Regulations**

**Mexico**

**National occupational exposure limits**

Component	Carcinogen Status	Exposure Limits
Potassium ferrocyanide 14459-95-1 ( 60 - 100 )		Mexico: TWA 1 mg/m <sup>3</sup> Mexico: TWA 5 mg/m <sup>3</sup> Mexico: STEL 2 mg/m <sup>3</sup>

Mexico - Occupational Exposure Limits - Carcinogens

**Canada**

**WHMIS Hazard Class**

Not determined

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 1	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 1	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	<b>Personal Protection</b> X

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Revision Date** 24-Sep-2014

**Revision Note** No information available

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

End of Safety Data Sheet





# SAFETY DATA SHEET

Issuing Date No data available

Revision Date 14-Oct-2014

Revision Number 2



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

### Product identifier

Product Name Sodium Carbonate

### Other means of identification

Synonyms None

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

Recommended Use Only under proper supervision and according to the directions and precautions provided in the corresponding science educational set instructions.

Uses advised against No information available

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

Supplier Name Thames & Kosmos  
Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US  
Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872  
Supplier Email products@thamesandkosmos.com  
Emergency telephone number (US Poison Control)1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2



**GHS Label elements, including precautionary statements****Emergency Overview**

<b>Signal word</b>	<b>Warning</b>		
<b>Hazard Statements</b>			
Harmful if inhaled			
Causes serious eye irritation			
			
<b>Appearance</b>	White	<b>Physical State</b>	Solid/Powder Solid
			<b>Odor</b> Odorless

**Precautionary Statements - Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area

**Precautionary Statements - Response****Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor/physician if you feel unwell

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

None

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

May be harmful if swallowed

**Interactions with Other Chemicals**

No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Sodium carbonate	497-19-8	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### 4. FIRST AID MEASURES

#### First aid measures

##### General Advice

Show this safety data sheet to the doctor in attendance.

##### Eye Contact

If symptoms persist, call a physician. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.

##### Skin Contact

Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.

##### Inhalation

Remove to fresh air. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately. If not breathing, give artificial respiration. Do not breathe dust.

##### Ingestion

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

##### Self-protection of the first aider

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear personal protective clothing (see section 8). Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe dust.

#### Most important symptoms and effects, both acute and delayed

**Most Important Symptoms and Effects** Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

#### Indication of any immediate medical attention and special treatment needed

##### Notes to Physician

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

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

### Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific Hazards Arising from the Chemical

No information available.

#### **Uniform Fire Code**

Irritant: Solid  
Highly Toxic: Solid

### Hazardous Combustion Products

Carbon oxides.

### Explosion Data

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

### 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**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Avoid generation of dust. Do not breathe dust.

#### **Other Information**

Refer to protective measures listed in Sections 7 and 8.

### Environmental Precautions

#### **Environmental Precautions**

Refer to protective measures listed in Sections 7 and 8.

### 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**

Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Do not breathe dust. Avoid generation of dust. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

### Conditions for safe storage, including any incompatibilities

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

**Incompatible Products** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/Face Protection** If splashes are likely to occur. Wear safety glasses with side shields (or goggles). None required for consumer use.

**Skin and Body Protection** Wear protective gloves and protective clothing.

**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Do not breathe dust.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

<b>Physical State</b>	Solid/Powder Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	White	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		



<u>Property</u>	<u>Values</u>	<u>Remarks/ Method</u>
pH	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	2g/100ml	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing Properties	No data available	

**Other Information**

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

Excessive heat.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

<b>Product Information</b>	Product does not present an acute toxicity hazard based on known or supplied information.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Harmful by inhalation. (based on components).
<b>Eye Contact</b>	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. May cause redness, itching, and pain. May cause temporary eye irritation.
<b>Skin Contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium carbonate 497-19-8	= 4090 mg/kg ( Rat )	-	= 2300 mg/m <sup>3</sup> ( Rat ) 2 h

**Information on toxicological effects**

**Symptoms** May cause redness and tearing of the eyes. Coughing and/ or wheezing.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	No information available.
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Reproductive Toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Chronic Toxicity</b>	No known effect based on information supplied.
<b>Target Organ Effects</b>	Eyes. Respiratory system.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity Product Information**

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

ATEmix (oral)  
 4,090.00 mg/kg  
 ATEmix (inhalation-dust/mist)  
 1.15 mg/l

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Sodium carbonate 497-19-8	120h EC50: = 242 mg/L (Nitzschia)	96h LC50: = 300 mg/L (Lepomis macrochirus) 96h LC50: 310 - 1220 mg/L (Pimephales promelas)		48h EC50: = 265 mg/L

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal methods**

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**

Dispose of contents/containers in accordance with local regulations.

**California Hazardous Waste Codes 141**

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Sodium carbonate 497-19-8	Corrosive

**14. TRANSPORT INFORMATION**

**DOT**

Proper Shipping Name  
 Hazard Class

NOT REGULATED  
 NON REGULATED  
 N/A



<u>TDG</u>	Not regulated
<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
Proper Shipping Name	NON REGULATED
Hazard Class	N/A
<u>IMDG/IMO</u>	Not regulated
Hazard Class	N/A
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

### 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	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

#### CWA (Clean Water Act)

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

#### CERCLA

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

### US State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.



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

This product does not contain any substances regulated by state right-to-know regulations.

**International Regulations**

Canada  
**WHMIS Hazard Class**  
 D2B - Toxic materials



**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b>	3	<b>Flammability</b>	0	<b>Instability</b>	0	<b>Physical and Chemical Hazards</b>	-
<b>HMS</b>	<b>Health Hazards</b>	3	<b>Flammability</b>	0	<b>Physical Hazard</b>	0	<b>Personal Protection</b>	X

**Prepared By** Product Stewardship  
 23 British American Blvd.  
 Latham, NY 12110  
 1-800-572-6501

**Revision Date** 14-Oct-2014  
**Revision Note** No information available

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

Issuing Date 27-May-2015

Revision Date 27-May-2015

Revision Number 2



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

### Product identifier

**Product Name** Ammonium Chloride

### Other means of identification

**Synonyms** None

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

**Recommended Use** Only with proper supervision and according to directions and precautions provided in the corresponding science educational set instructions.

**Uses advised against** No information available

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

**Supplier Name** Thames & Kosmos

**Supplier Address** 301 Friendship Street  
Providence  
RI  
02903  
US

**Supplier Phone Number** Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

**Supplier Email** products@thamesandkosmos.com

**Emergency telephone number** (US Poison Control)1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)



Acute toxicity - Oral	Category 4
Serious eye damage/eye irritation	Category 2

**GHS Label elements, including precautionary statements****Emergency Overview**

<b>Signal word</b>	<b>Warning</b>		
<b>Hazard Statements</b>			
Harmful if swallowed			
Causes serious eye irritation			
			
<b>Appearance</b>	Colorless	<b>Physical state</b>	Solid
		<b>Odor</b>	Odorless

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Wear eye/face protection

**Precautionary Statements - Response****Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

No information available

**Interactions with Other Chemicals**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No	Weight-%	Trade Secret
Ammonium chloride	12125-02-9	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice**

Show this safety data sheet to the doctor in attendance.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

**Skin contact**

Wash with soap and water.

**Inhalation**

Remove to fresh air.

**Ingestion**

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** Burning sensation.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician**

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

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

### Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific hazards arising from the chemical

No information available.

Uniform Fire Code

Irritant: Solid

### Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

### 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** Avoid contact with skin, eyes or clothing. Use personal protective equipment as required.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

### Environmental precautions

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

### 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** Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. 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 out of the reach of children.

**Incompatible Products** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ammonium chloride 12125-02-9	STEL: 20 mg/m <sup>3</sup> fume TWA: 10 mg/m <sup>3</sup> fume	(vacated) TWA: 10 mg/m <sup>3</sup> fume (vacated) STEL: 20 mg/m <sup>3</sup> fume	TWA: 10 mg/m <sup>3</sup> fume STEL: 20 mg/m <sup>3</sup> fume

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/face protection** If there is a risk of contact: Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear protective gloves and protective clothing.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

<b>Physical state</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Colorless	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	No data available	None known	
Water Solubility	>33g/100ml	None known	
Solubility in other solvents	No data available	None known	
Partition coefficient: n-octanol/water	No data available	None known	
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	No data available	None known	
Explosive properties	No data available		
Oxidizing properties	No data available		

**Other Information**

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

**10. STABILITY AND REACTIVITY**

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

**11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

**Product Information**



<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. May cause redness, itching, and pain. Causes serious eye irritation.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ammonium chloride 12125-02-9	= 1410 mg/kg ( Rat )	-	-

**Information on toxicological effects**

**Symptoms** May cause redness and tearing of the eyes.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	No information available.
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target Organ Effects</b>	Eyes. Respiratory system. Skin. Systemic Toxicity.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity Product Information**

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

**ATEmix (oral)**  
1,410.00 mg/kg

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ammonium chloride 12125-02-9		96h LC50: = 209 mg/L (Cyprinus carpio) 24h LC50: = 725 mg/L (Lepomis macrochirus)		24h LC50: = 202 mg/L

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal methods**

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**

Dispose of contents/containers in accordance with local regulations.

California Hazardous Waste Codes 141

**14. TRANSPORT INFORMATION**

**DOT**  
 Proper Shipping Name NOT REGULATED  
 Hazard Class NON REGULATED  
 N/A

**TDG** Not regulated

**MEX** Not regulated

**ICAO** Not regulated

**IATA**  
 Proper Shipping Name Not regulated  
 NON REGULATED



<b>Hazard Class</b>	N/A
<b>IMDG/IMO Hazard Class</b>	Not regulated N/A
<b>RID</b>	Not regulated
<b>ADR</b>	Not regulated
<b>ADN</b>	Not regulated

**15. REGULATORY INFORMATION**

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL</b>	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

**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	CAS No	Weight-%	SARA 313 - Threshold Values %
Ammonium chloride - 12125-02-9	12125-02-9	60 - 100	1.0

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	No
<b>Fire Hazard</b>	No
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

**CWA (Clean Water Act)**

This product 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
Ammonium chloride 12125-02-9	5000 lb			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	Extremely Hazardous Substances RQs	RQ
Ammonium chloride 12125-02-9	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.



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

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Ammonium chloride 12125-02-9	X	X	X	X	

**International Regulations**

**Mexico**

**National occupational exposure limits**

Component	Carcinogen Status	Exposure Limits
Ammonium chloride 12125-02-9 ( 60 - 100 )		Mexico: TWA 10 mg/m <sup>3</sup> Mexico: STEL 20 mg/m <sup>3</sup>

Mexico - Occupational Exposure Limits - Carcinogens

**Canada**

**WHMIS Hazard Class**

D2B - Toxic materials

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	<b>Personal Protection</b> X

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Issuing Date** 27-May-2015  
**Revision Date** 27-May-2015  
**Revision Note** No information available

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of Safety Data Sheet**



# SAFETY DATA SHEET

Issuing Date 28-May-2015

Revision Date 28-May-2015

Revision Number 2



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

### Product identifier

Product Name Potassium permanganate preparation

### Other means of identification

Synonyms None

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

Recommended Use Only with proper supervision and according to directions and precautions provided in the corresponding science educational set instructions.

Uses advised against No information available

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

Supplier Name Thames & Kosmos

Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US

Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

Supplier Email products@thamesandkosmos.com

Emergency telephone number (US Poison Control) 1-800-222-1222

## 2. HAZARDS IDENTIFICATION


### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)



Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1 Sub-category C
Serious eye damage/eye irritation	Category 1
Oxidizing solids	Category 1

**GHS Label elements, including precautionary statements****Emergency Overview**

<b>Signal word</b>	<b>Danger</b>	
<b>Hazard Statements</b>		
Harmful if swallowed		
Causes severe skin burns and eye damage		
May cause fire or explosion; strong oxidizer		
		
<b>Appearance</b>	Violet	<b>Physical state</b> Granular Solid
		<b>Odor</b> Odorless

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep/Store away from clothing/ combustible materials  
 Take any precaution to avoid mixing with combustibles  
 Wear fire/flame resistant/retardant clothing

**Precautionary Statements - Response**

Immediately call a POISON CENTER or doctor/physician  
 Specific treatment (see supplemental first aid instructions on this label)

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a POISON CENTER or doctor/physician

**Skin**

Wash contaminated clothing before reuse  
 IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes  
 Rinse skin with water/shower

**Inhalation**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Immediately call a POISON CENTER or doctor/physician

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth  
Do NOT induce vomiting

**Fire**

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion  
In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

66.67% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

Very toxic to aquatic life with long lasting effects

**Interactions with Other Chemicals**

Use of alcoholic beverages may enhance toxic effects.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Potassium permanganate	7722-64-7	15 - 40	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### 4. FIRST AID MEASURES

**First aid measures****General Advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. 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 while removing all contaminated clothes and shoes. Seek immediate medical attention/advice.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.



**Ingestion** Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

**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.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** Burning sensation.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Use water. Do not use dry chemicals or foams. CO<sub>2</sub> or Halon may provide limited control. Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out.

**Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific hazards arising from the chemical**

These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Runoff may create fire or explosion hazard.

**Uniform Fire Code** Oxidizer: Class 2--Solid

**Explosion Data**

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

**Protective equipment and precautions for firefighters**

Do not move cargo or vehicle if cargo has been exposed to heat. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor; if this is impossible, withdraw from area and let fire burn.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other Information** DO NOT GET WATER INSIDE CONTAINERS.

### Environmental precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

### 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** With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

**Incompatible Products** Acids. Bases. Oxidizing agent.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium permanganate	TWA: 0.02 mg/m <sup>3</sup> Mn	(vacated) Ceiling: 5 mg/m <sup>3</sup>	IDLH: 500 mg/m <sup>3</sup> Mn

7722-64-7	TWA: 0.1 mg/m <sup>3</sup> Mn	Ceiling: 5 mg/m <sup>3</sup> Mn	TWA: 1 mg/m <sup>3</sup> Mn STEL: 3 mg/m <sup>3</sup> Mn
-----------	-------------------------------	---------------------------------	-------------------------------------------------------------

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits Immediately Dangerous to Life or Health

**Appropriate engineering controls**

**Engineering Measures**                      Showers  
                                                          Eyewash stations  
                                                          Ventilation systems

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

**Eye/face protection**                      Face protection shield.

**Skin and body protection**                Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

**Respiratory protection**                    No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures**                         Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical and Chemical Properties**

<b>Physical state</b>	Granular, Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Violet	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	No data available	None known	
Water Solubility	Reacts with water	None known	
Solubility in other solvents	No data available	None known	
Partition coefficient: n-octanol/water	No data available	None known	
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	No data available	None known	



**Explosive properties** No data available  
**Oxidizing properties** No data available

**Other Information**

**Softening Point** No data available  
**VOC Content (%)** No data available  
**Particle Size** No data available  
**Particle Size Distribution**

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

Exposure to air or moisture over prolonged periods.

**Incompatible materials**

Acids. Bases. Oxidizing agent.

**Hazardous Decomposition Products**

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Prolonged skin contact causes burns. Symptoms may be delayed.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed.

**Component Information**

**Information on toxicological effects**

**Symptoms** Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Chronic Toxicity** Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. May cause adverse effects on the bone marrow and blood-forming system.

**Target Organ Effects** Blood. Central Nervous System (CNS). Kidney. Respiratory system. Eyes. Skin. Gastrointestinal tract (GI).

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

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

**ATEmix (oral)**  
500.00 mg/kg

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Harmful to aquatic life. Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Potassium permanganate 7722-64-7		96h LC50: 2.97 - 3.11 mg/L (Cyprinus carpio) 96h LC50: 3.16 - 3.77 mg/L (Cyprinus carpio) 96h LC50: 1.8 - 5.6 mg/L (Lepomis macrochirus) 96h LC50: = 2.3 mg/L (Lepomis macrochirus) 96h LC50: 3.3 - 3.93 mg/L (Carassius auratus) 96h LC50: = 2.7 mg/L (Lepomis macrochirus) 96h LC50: 1.08 - 1.38 mg/L (Oncorhynchus mykiss) 96h LC50: 0.769 - 1.27 mg/L (Oncorhynchus mykiss)		

### Persistence and Degradability

No information available.

### Bioaccumulation

No information available

### Other adverse effects

No information available.

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Disposal methods** This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

**Contaminated Packaging** Dispose of contents/containers in accordance with local regulations.

**US EPA Waste Number** D001

**California Hazardous Waste Codes** 181

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Potassium permanganate 7722-64-7	Toxic Corrosive Ignitable

## 14. TRANSPORT INFORMATION



**DOT**

Proper Shipping Name CONSUMER COMMODITY  
Hazard Class ORM-D  
Description CONSUMER COMMODITY, ORM-D  
Emergency Response Guide Number 140

**TDG**

UN-No. UN1490  
Proper Shipping Name POTASSIUM PERMANGANATE  
Hazard Class 5.1  
Packing Group II  
Description UN1490, POTASSIUM PERMANGANATE, 5.1, II

**MEX**

UN-No. UN1490  
Proper Shipping Name POTASSIUM PERMANGANATE  
Hazard Class 5.1  
Packing Group II  
Description UN1490, POTASSIUM PERMANGANATE, 5.1, II

**ICAO**

UN-No. UN1490  
Proper Shipping Name POTASSIUM PERMANGANATE  
Hazard Class 5.1  
Packing Group II  
Description UN1490, POTASSIUM PERMANGANATE, 5.1, II

**IATA**

UN-No. UN1490  
Proper Shipping Name POTASSIUM PERMANGANATE  
Hazard Class 5.1  
Packing Group II  
Description UN1490, POTASSIUM PERMANGANATE, 5.1, II

**IMDG/IMO**

UN-No. UN1490  
Proper Shipping Name POTASSIUM PERMANGANATE  
Hazard Class 5.1  
Packing Group II  
EmS-No. F-A, S-Q  
Marine Pollutant Product is a marine pollutant according to the criteria set by IMDG/IMO  
Description UN1490, POTASSIUM PERMANGANATE, 5.1, II

**RID**

UN-No. UN1490  
Proper Shipping Name POTASSIUM PERMANGANATE  
Hazard Class 5.1  
Packing Group II  
Classification code O2  
Description UN1490, POTASSIUM PERMANGANATE, 5.1, II

**ADR**

UN-No. UN1490  
Proper Shipping Name POTASSIUM PERMANGANATE

**Hazard Class** 5.1  
**Packing Group** II  
**Classification code** O2  
**Tunnel restriction code** (E)  
**Description** UN1490, POTASSIUM PERMANGANATE, 5.1, II

**ADN**

**UN-No.** UN1490  
**Proper Shipping Name** POTASSIUM PERMANGANATE  
**Hazard Class** 5.1  
**Packing Group** II  
**Classification code** O2  
**Description** UN1490, POTASSIUM PERMANGANATE, 5.1, II  
**Limited Quantity** 1 KG

<b>15. REGULATORY INFORMATION</b>
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**International Inventories**

**TSCA** Complies  
**DSL** All components are listed either on the DSL or NDSL.

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**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	CAS No	Weight-%	SARA 313 - Threshold Values %
Potassium permanganate - 7722-64-7	7722-64-7	15 - 40	1.0

**SARA 311/312 Hazard Categories**

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

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium permanganate 7722-64-7	100 lb			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	Extremely Hazardous Substances RQs	RQ
Potassium permanganate 7722-64-7	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ



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

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium sulfate 7757-82-6		X	X		
Potassium permanganate 7722-64-7	X	X	X	X	X

**International Regulations****Mexico****National occupational exposure limits**

Component	Carcinogen Status	Exposure Limits
Potassium permanganate 7722-64-7 ( 15 - 40 )		Mexico: TWA 0.2 mg/m <sup>3</sup>

Mexico - Occupational Exposure Limits - Carcinogens

**Canada****WHMIS Hazard Class**

Not determined

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Instability</b> 1	<b>Physical and Chemical Hazards</b>
<b>HMIS</b>	<b>Health Hazards</b> 3	<b>Flammability</b> 0	<b>Physical Hazard</b> 1	<b>OX</b>
				<b>Personal Protection</b>
				<b>X</b>

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Issuing Date** 28-May-2015  
**Revision Date** 28-May-2015  
**Revision Note** No information available

**Disclaimer**

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

Issuing Date 02-Jun-2015

Revision Date 02-Jun-2015

Revision Number 2



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

### Product identifier

Product Name Sulfur

### Other means of identification

Synonyms None

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

Recommended Use Only with proper supervision and according to directions and precautions provided in the corresponding science educational set instructions.

Uses advised against No information available

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

Supplier Name Thames & Kosmos

Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US

Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

Supplier Email products@thamesandkosmos.com

Emergency telephone number (US Poison Control) 1-800-222-1222

## 2. HAZARDS IDENTIFICATION


### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



Skin corrosion/irritation	Category 2
Flammable solids	Category 2

**GHS Label elements, including precautionary statements**

Emergency Overview	
<b>Signal word</b>	<b>Warning</b>
<b>Hazard Statements</b> Causes skin irritation Flammable solids	
	
<b>Appearance</b> Light yellow	<b>Physical state</b> Solid/Powder Solid
<b>Odor</b> Sulfur	

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating/ lighting/ equipment

**Precautionary Statements - Response**

Specific treatment (see supplemental first aid instructions on this label)

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation occurs: Get medical advice/attention  
 Take off contaminated clothing and wash before reuse

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

None

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION

**Interactions with Other Chemicals**

No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Sulfur	7704-34-9	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### 4. FIRST AID MEASURES

**First aid measures****General Advice**

Show this safety data sheet to the doctor in attendance.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

**Skin contact**

Removal of solidified molten material from skin requires medical assistance.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

**Ingestion**

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.

**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.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** No information available.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Dry chemical, CO<sub>2</sub>, sand, earth, water spray or regular foam. Water spray, fog or regular foam.

### Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

### Specific hazards arising from the chemical

Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form.

**Uniform Fire Code**                      FLAMMABLE SOLID: INORGANIC

### Explosion Data

**Sensitivity to Mechanical Impact**    None.

**Sensitivity to Static Discharge**        Yes.

### Protective equipment and precautions for firefighters

Move containers from fire area if you can do it without risk.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

#### **Personal precautions**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

#### **Other Information**

Refer to protective measures listed in Sections 7 and 8. Ventilate the area.

### Environmental precautions

#### **Environmental precautions**

Prevent further leakage or spillage if safe to do so. Refer to protective measures listed in Sections 7 and 8. Prevent product from entering drains.

### Methods and material for containment and cleaning up

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Keep out of drains, sewers, ditches and waterways.

#### **Methods for cleaning up**

Take precautionary measures against static discharges. Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Use personal protection equipment. Avoid generation of dust. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

**Incompatible Products** Strong acids. Strong oxidizing agents. Strong bases.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves. Chemical resistant apron. Antistatic boots.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

<b>Physical state</b> <b>Appearance</b> <b>Color</b>	Solid/Powder, Solid Light yellow No information available	<b>Odor</b> <b>Odor Threshold</b>	Sulfur No information available
------------------------------------------------------------	-----------------------------------------------------------------	--------------------------------------	------------------------------------

Property	Values	Remarks	Method
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	No data available	None known	
Water Solubility	Insoluble	None known	
Solubility in other solvents	No data available	None known	
Partition coefficient: n-octanol/water	No data available	None known	
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	No data available	None known	
Explosive properties	No data available		
Oxidizing properties	No data available		

### Other Information

<b>Softening Point</b> <b>VOC Content (%)</b> <b>Particle Size</b> <b>Particle Size Distribution</b>	No data available No data available No data available
---------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Conditions to avoid

Heat, flames and sparks.

### Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

### Hazardous Decomposition Products

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION



**Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components). May cause irritation of respiratory tract.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. May cause redness, itching, and pain. (based on components).
<b>Skin contact</b>	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to skin. Causes skin irritation. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfur 7704-34-9	> 3000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 9.23 mg/L ( Rat ) 4 h

**Information on toxicological effects**

**Symptoms** Erythema (skin redness). May cause redness and tearing of the eyes.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Sensitization</b>	No information available.
<b>Mutagenic Effects</b>	No information available.
<b>Carcinogenicity</b>	Contains no ingredient listed as a carcinogen.
<b>Reproductive toxicity</b>	No information available.
<b>STOT - single exposure</b>	No information available.
<b>STOT - repeated exposure</b>	No information available.
<b>Target Organ Effects</b>	Respiratory system. Eyes. Skin.
<b>Aspiration Hazard</b>	No information available.

**Numerical measures of toxicity Product Information**

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

Not applicable

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Sulfur 7704-34-9		96h LC50: = 866 mg/L (Brachydanio rerio) 96h LC50: < 14 mg/L (Lepomis macrochirus) 96h LC50: > 180 mg/L (Oncorhynchus mykiss)		

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal methods** Should not be released into the environment. Dispose of contents/containers in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated Packaging** Dispose of contents/containers in accordance with local regulations.

**US EPA Waste Number** D001

**California Hazardous Waste Codes** 141

**14. TRANSPORT INFORMATION**

**DOT**  
**Proper Shipping Name** NOT REGULATED  
**Emergency Response Guide Number** NON REGULATED 133

**TDG**  
**UN-No.** UN1350  
**Proper Shipping Name** SULFUR  
**Hazard Class** 4.1  
**Packing Group** III  
**Description** UN1350, SULFUR, 4.1, III

**MEX**



<b>UN-No.</b>	UN1350
<b>Proper Shipping Name</b>	SULPHUR
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Description</b>	UN1350, SULPHUR , 4.1, III

**ICAO**

<b>UN-No.</b>	UN1350
<b>Proper Shipping Name</b>	SULPHUR
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Description</b>	UN1350, SULPHUR , 4.1, III

**IATA**

<b>UN-No.</b>	UN1350
<b>Proper Shipping Name</b>	SULPHUR
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Description</b>	UN1350, SULPHUR , 4.1, III

**IMDG/IMO**

<b>UN-No.</b>	UN1350
<b>Proper Shipping Name</b>	SULPHUR
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>EmS-No.</b>	F-A, S-G
<b>Description</b>	UN1350, SULPHUR , 4.1, III

**RID**

<b>UN-No.</b>	UN1350
<b>Proper Shipping Name</b>	SULPHUR
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Classification code</b>	F3
<b>Description</b>	UN1350, SULPHUR , 4.1, III

**ADR**

<b>UN-No.</b>	UN1350
<b>Proper Shipping Name</b>	SULPHUR
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Classification code</b>	F3
<b>Tunnel restriction code</b>	(E)
<b>Description</b>	UN1350, SULPHUR , 4.1, III

**ADN**

<b>UN-No.</b>	UN1350
<b>Proper Shipping Name</b>	SULPHUR
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Classification code</b>	F3
<b>Special Provisions</b>	242
<b>Description</b>	UN1350, SULPHUR , 4.1, III
<b>Limited Quantity</b>	5 KG

## 15. REGULATORY INFORMATION

### International Inventories

TSCA Complies  
 DSL All components are listed either on the DSL or NDSL.  
 IECSC -

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

### 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	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
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

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sulfur 7704-34-9	X	X	X		

### International Regulations

Canada  
 WHMIS Hazard Class  
 Not determined

## 16. OTHER INFORMATION



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<b>NFPA</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 3	<b>Instability</b> 0	<b>Physical and Chemical Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 3	<b>Physical Hazard</b> 0	<b>Personal Protection</b> X

<b>Prepared By</b>	Product Stewardship 23 British American Blvd. Latham, NY 12110 1-800-572-6501
<b>Issuing Date</b>	02-Jun-2015
<b>Revision Date</b>	02-Jun-2015
<b>Revision Note</b>	No information available

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**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date No data available

Revision Date 14-Oct-2014

Revision Number 2



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

### Product identifier

Product Name Copper (II) Sulfate

### Other means of identification

Synonyms None

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

Recommended Use Only under proper supervision and according to the directions and precautions provided in the corresponding science educational set instructions.

Uses advised against No information available

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

Supplier Name Thames & Kosmos  
Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US  
Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872  
Supplier Email products@thamesandkosmos.com  
Emergency telephone number (US Poison Control)1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)


Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Skin corrosion/irritation	Category 2



Serious eye damage/eye irritation

Category 2

**GHS Label elements, including precautionary statements****Emergency Overview**

<b>Signal word</b>	<b>Danger</b>		
<b>Hazard Statements</b>	Harmful if swallowed Toxic in contact with skin Causes skin irritation Causes serious eye irritation		
			
<b>Appearance</b>	Blue	<b>Physical State</b>	Granular Solid
		<b>Odor</b>	Odorless

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Specific measures (see .? on this label)  
 Specific treatment (see supplemental first aid instructions on this label)

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
 Call a POISON CENTER or doctor/physician if you feel unwell  
 Remove/Take off immediately all contaminated clothing  
 Wash contaminated clothing before reuse  
 If skin irritation occurs: Get medical advice/attention

**Ingestion**

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

Very toxic to aquatic life with long lasting effects

**Interactions with Other Chemicals**

No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%	Trade Secret
Copper (II) sulfate pentahydrate (1:1:5)	7758-99-8	60 - 100	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret

### 4. FIRST AID MEASURES

**First aid measures**

**General Advice**

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Do not rub affected area. Seek immediate medical attention/advice.

**Skin Contact**

Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

**Ingestion**

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

**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.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** Burning sensation.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Dry chemical, CO<sub>2</sub>, water spray or regular foam. Dike fire-control water for later disposal.

### Unsuitable extinguishing media

Do not use halogenated extinguishing agents or foam. Do not scatter spilled material with high pressure water streams.

### Specific Hazards Arising from the Chemical

Some may burn but none ignite readily. Some may be transported hot.

**Uniform Fire Code** Irritant: Solid

### Hazardous Combustion Products

Carbon oxides.

### Explosion Data

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

### 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** Do not touch or walk through spilled material. Stop leak if you can do it without risk.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

### Environmental Precautions

**Environmental Precautions** Prevent entry into waterways, sewers, basements or confined areas.

### 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** Take up with sand, earth or other non-combustible absorbent material. With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

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

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

**Incompatible Products** Strong acids. Strong oxidizing agents. Strong bases.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	TWA: 1 mg/m <sup>3</sup> Cu dust and mist	-	IDLH: 100 mg/m <sup>3</sup> Cu dust and mist TWA: 1 mg/m <sup>3</sup> Cu dust and mist

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

**Appropriate engineering controls**

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/Face Protection** If splashes are likely to occur. Wear safety glasses with side shields (or goggles). None required for consumer use.

**Skin and Body Protection** Wear protective gloves and protective clothing. Long sleeved clothing. Impervious gloves. Chemical resistant apron.

**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. No information available. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

<b>Physical State</b> <b>Appearance</b> <b>Color</b>	Granular Solid Blue No information available	<b>Odor</b> <b>Odor Threshold</b>	Odorless No information available
------------------------------------------------------------	----------------------------------------------------	--------------------------------------	--------------------------------------

<u>Property</u>	<u>Values</u>	<u>Remarks/ Method</u>
pH	No data available	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	No data available	None known
Water Solubility	Soluble in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	None known
Oxidizing Properties	No data available	

### Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

None under normal processing.

### Hazardous Polymerization

Hazardous polymerization does not occur.

### Conditions to avoid

None known based on information supplied.

### Incompatible materials

Strong acids. Strong oxidizing agents. Strong bases.

### Hazardous Decomposition Products

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Product Information</b>	Product does not present an acute toxicity hazard based on known or supplied information.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
<b>Eye Contact</b>	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to eyes. May cause redness, itching, and pain. May cause temporary eye irritation.
<b>Skin Contact</b>	Specific test data for the substance or mixture is not available. Expected to be an irritant based on components. Irritating to skin. Prolonged contact may cause redness and irritation. Toxic in contact with skin. May be absorbed through the skin in harmful amounts. (based on components).
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May be harmful if swallowed. (based on components).

### Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	= 300 mg/kg ( Rat )	= 1000 mg/kg ( Rabbit )	-

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**Information on toxicological effects**

**Symptoms** Erythema (skin redness). May cause redness and tearing of the eyes.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive Toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Chronic Toxicity** No known effect based on information supplied. May cause adverse liver effects.

**Target Organ Effects** Respiratory system. Eyes. Skin. Kidney. Liver. Heart.

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

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

**ATEmix (oral)**  
500.00 mg/kg  
**ATEmix (dermal)**  
1,000.00 mg/kg (ATE)

**12. ECOLOGICAL INFORMATION**

This product contains a chemical which is listed as a severe marine pollutant according to DOT

**Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8		96h LC50: 0.66 - 1.15 mg/L (Lepomis macrochirus) 96h LC50: 0.1478 - 0.165 mg/L (Oncorhynchus mykiss) 96h LC50: 0.09 - 0.19 mg/L (Oncorhynchus mykiss) 96h LC50: 0.96 - 1.8 mg/L (Lepomis macrochirus) 96h LC50: = 0.6752 mg/L (Pimephales promelas)	EC50 < 0.25 mg/L 30 min EC50 = 0.25 mg/L 15 min EC50 = 1.3 mg/L 5 min	48h EC50: 0.147 - 0.227 mg/L

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal methods**

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**

Dispose of contents/containers in accordance with local regulations.

**California Hazardous Waste Codes 141**

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	Toxic

**14. TRANSPORT INFORMATION**

**DOT**



<b>Proper Shipping Name</b>	CONSUMER COMMODITY
<b>Hazard Class</b>	ORM-D
<b>Marine Pollutant</b>	This product contains a chemical which is listed as a severe marine pollutant according to DOT
<b>Description</b>	CONSUMER COMMODITY, ORM-D
<b>Emergency Response Guide Number</b>	171

**TDG**

<b>UN-No.</b>	UN3077
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Description</b>	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULFATE), 9, III

**MEX**

<b>UN-No.</b>	UN3077
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Description</b>	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULFATE), 9, III

**ICAO**

<b>UN-No.</b>	UN3077
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Description</b>	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULFATE), 9, III

**IATA**

<b>UN-No.</b>	UN3077
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Description</b>	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULFATE), 9, III

**IMDG/IMO**

<b>UN-No.</b>	UN3077
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>EmS No.</b>	F-A, S-F
<b>Marine Pollutant</b>	Product is a marine pollutant according to the criteria set by IMDG/IMO
<b>Description</b>	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULFATE), 9, III

**RID**

<b>UN-No.</b>	UN3077
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
<b>Hazard Class</b>	9
<b>Packing Group</b>	III
<b>Classification code</b>	M7



**Description** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULFATE), 9, III

**ADR**

**UN-No.** UN3077  
**Proper Shipping Name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
**Hazard Class** 9  
**Packing Group** III  
**Classification code** M7  
**Tunnel restriction code** (E)  
**Description** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULFATE), 9, III

**ADN**

**UN-No.** UN3077  
**Proper Shipping Name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.  
**Hazard Class** 9  
**Packing Group** III  
**Classification code** M7  
**Special Provisions** 274, 335, 601  
**Description** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COPPER (II) SULFATE), 9, III  
**Limited Quantity** 5 KG

**15. REGULATORY INFORMATION**

**International Inventories**

TSCA Complies  
 DSL All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

**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	CAS No	Weight-%	SARA 313 - Threshold Values %
Copper (II) sulfate pentahydrate (1:1:5) - 7758-99-8	7758-99-8	60 - 100	1.0

**SARA 311/312 Hazard Categories**

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

**CWA (Clean Water Act)**

This product 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



Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	10 lb	X		X
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**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	Extremely Hazardous Substances RQs	RQ
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	10 lb		RQ 10 lb final RQ RQ 4.54 kg final RQ

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Copper (II) sulfate pentahydrate (1:1:5) 7758-99-8	X	X	X	X	

**International Regulations**

**Canada**

**WHMIS Hazard Class**

D2B - Toxic materials



**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards</b> -
<b>HMIS</b>	<b>Health Hazards</b> 2	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	<b>Personal Protection</b> X

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Revision Date** 14-Oct-2014

**Revision Note** No information available

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text



End of Safety Data Sheet



# SAFETY DATA SHEET

Issuing Date 02-Jun-2015

Revision Date 02-Jun-2015

Revision Number 2



The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publicly available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

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

### Product identifier

Product Name Magnesium Strip

### Other means of identification

Synonyms None

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

Recommended Use Only with proper supervision and according to directions and precautions provided in the corresponding science educational set instructions.

Uses advised against No information available

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

Supplier Name Thames & Kosmos

Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US

Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872

Supplier Email products@thamesandkosmos.com

Emergency telephone number (US Poison Control) 1-800-222-1222

## 2. HAZARDS IDENTIFICATION


### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).



Acute toxicity - Oral	Category 3
Flammable solids	Category 2

**GHS Label elements, including precautionary statements**

Emergency Overview	
Signal word	Danger
<b>Hazard Statements</b> Toxic if swallowed Flammable solids	
	
Appearance	Metallic Physical state Solid Odor Odorless

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ ventilating/ lighting/ equipment  
 Wear protective gloves/protective clothing/eye protection/face protection

**Precautionary Statements - Response**

Specific treatment (see .? on this label)

**Ingestion**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 Rinse mouth

**Fire**

In case of fire: Use CO2, dry chemical, or foam for extinction

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity



**Other information**

PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION

**Interactions with Other Chemicals**

No information available.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

\*The exact percentage (concentration) of composition has been withheld as a trade secret

**4. FIRST AID MEASURES****First aid measures****General Advice**

Show this safety data sheet to the doctor in attendance.

**Eye contact**

Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

**Skin contact**

Wash with soap and water.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, (trained personnel should) give oxygen.

**Ingestion**

Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.

**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.

**Most important symptoms and effects, both acute and delayed**

**Most Important Symptoms and Effects** No information available.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Dry chemical, soda ash, lime or sand. DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk.

### Unsuitable extinguishing media

DO NOT USE WATER OR FOAM.

### Specific hazards arising from the chemical

Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. Some are transported in highly flammable liquid. Runoff may create fire or explosion hazard.

**Uniform Fire Code**                      FLAMMABLE SOLID: INORGANIC

### Explosion Data

**Sensitivity to Mechanical Impact**    None.

**Sensitivity to Static Discharge**      Yes.

### 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**                      ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST.

**Other Information**                              DO NOT GET WATER on spilled substance or inside containers.

### Environmental precautions

**Environmental precautions**                      Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material.

### Methods and material for containment and cleaning up

**Methods for containment**                      Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry.

**Methods for cleaning up**                      Take precautionary measures against static discharges. Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Avoid generation of dust. Use personal protection equipment. Avoid contact with skin and eyes. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations.

**Incompatible Products** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves. Antistatic boots.

**Respiratory protection** If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene Measures** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical and Chemical Properties**

Physical state	Solid	Odor	Odorless
Appearance	Metallic	Odor Threshold	No information available
Color	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Specific Gravity	No data available	None known	
Water Solubility	Insoluble	None known	
Solubility in other solvents	No data available	None known	
Partition coefficient: n-octanol/water	No data available	None known	
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	No data available	None known	
Explosive properties	No data available		
Oxidizing properties	No data available		

**Other Information**

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	

**10. STABILITY AND REACTIVITY****Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

Heat, flames and sparks.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied.

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

**Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available. Toxic if swallowed. (based on components).

**Component Information****Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organ Effects** None known.

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

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

**ATEmix (oral)**  
230.00 mg/kg

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

### Persistence and Degradability

No information available.

### Bioaccumulation

No information available

### Other adverse effects

No information available.

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

#### Disposal methods

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Should not be released into the environment. Dispose of contents/containers in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

#### Contaminated Packaging

Dispose of contents/containers in accordance with local regulations.

#### US EPA Waste Number

D001

California Hazardous Waste Codes 171

## 14. TRANSPORT INFORMATION

### DOT

Proper Shipping Name	CONSUMER COMMODITY
Hazard Class	ORM-D
Description	CONSUMER COMMODITY, ORM-D
Emergency Response Guide Number	138

### TDG

UN-No.	UN1869
Proper Shipping Name	MAGNESIUM
Hazard Class	4.1
Packing Group	III
Description	UN1869, MAGNESIUM, 4.1, III

### MEX

UN-No.	UN1869
Proper Shipping Name	MAGNESIUM



<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Description</b>	UN1869, MAGNESIUM, 4.1, III

**ICAO**

<b>UN-No.</b>	UN1869
<b>Proper Shipping Name</b>	MAGNESIUM
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Description</b>	UN1869, MAGNESIUM, 4.1, III

**IATA**

<b>UN-No.</b>	UN1869
<b>Proper Shipping Name</b>	MAGNESIUM
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Description</b>	UN1869, MAGNESIUM, 4.1, III

**IMDG/IMO**

<b>UN-No.</b>	UN1869
<b>Proper Shipping Name</b>	MAGNESIUM
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>EmS-No.</b>	F-G, S-G
<b>Description</b>	UN1869, MAGNESIUM, 4.1, III

**RID**

<b>UN-No.</b>	UN1869
<b>Proper Shipping Name</b>	MAGNESIUM
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Classification code</b>	F3
<b>Description</b>	UN1869, MAGNESIUM, 4.1, III

**ADR**

<b>UN-No.</b>	UN1869
<b>Proper Shipping Name</b>	MAGNESIUM
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Classification code</b>	F3
<b>Tunnel restriction code</b>	(E)
<b>Description</b>	UN1869, MAGNESIUM, 4.1, III

**ADN**

<b>UN-No.</b>	UN1869
<b>Proper Shipping Name</b>	MAGNESIUM
<b>Hazard Class</b>	4.1
<b>Packing Group</b>	III
<b>Classification code</b>	F3
<b>Special Provisions</b>	59
<b>Description</b>	UN1869, MAGNESIUM, 4.1, III
<b>Limited Quantity</b>	5 KG

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

TSCA Complies  
 DSL All components are listed either on the DSL or NDSL.  
 IECSC -

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

**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	Yes
Chronic Health Hazard	No
Fire Hazard	Yes
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**

This product does not contain any Proposition 65 chemicals.

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Magnesium 7439-95-4	X	X	X		

**International Regulations**

Canada  
 WHMIS Hazard Class  
 Not determined

**16. OTHER INFORMATION**

NFPA	Health Hazards 2	Flammability 3	Instability 0	Physical and Chemical Hazards -
HMIS	Health Hazards 2	Flammability 3	Physical Hazard 0	Personal Protection



X

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Issuing Date** 02-Jun-2015  
**Revision Date** 02-Jun-2015  
**Revision Note** No information available

**Disclaimer**

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

**End of Safety Data Sheet**

# SAFETY DATA SHEET

Issuing Date No data available

Revision Date 14-Oct-2014

Revision Number 2



The supplier identified below generated this SDS using the UL SDS template. UL did not test, certify, or approve the substance described in this SDS, and all information in this SDS was provided by the supplier or was reproduced from publically available regulatory data sources. UL makes no representations or warranties regarding the completeness or accuracy of the information in this SDS and disclaims all liability in connection with the use of this information or the substance described in this SDS. The layout, appearance and format of this SDS is © 2014 UL LLC. All rights reserved.

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

### Product identifier

Product Name Litmus Powder

### Other means of identification

Synonyms None

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

Recommended Use Use only with proper supervision and according to the directions and precautions provided in the corresponding science educational set instructions

Uses advised against No information available

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

Supplier Name Thames & Kosmos  
Supplier Address 301 Friendship Street  
Providence  
RI  
02903  
US  
Supplier Phone Number Phone:401-459-6787  
Fax:401-459-6775  
Contact Phone1-800-587-2872  
Supplier Email products@thamesandkosmos.com  
Emergency telephone number (US Poison Control)1-800-222-1222

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

### GHS Label elements, including precautionary statements

### Emergency Overview



The product contains no substances which at their given concentration, are considered to be hazardous to health

**Appearance** Purple

**Physical State** Powder(s) Solid

**Odor** Odorless

**Precautionary Statements - Prevention**

Obtain special instructions before use

**Precautionary Statements - Response**

None

**Precautionary Statements - Storage**

None

**Precautionary Statements - Disposal**

None

**Hazards not otherwise classified (HNOC)**

Not applicable

**Unknown Toxicity**

100% of the mixture consists of ingredient(s) of unknown toxicity

**Other information**

May cause slight eye irritation

PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION

**Interactions with Other Chemicals**

No information available.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

The product contains no substances which at their given concentration, are considered to be hazardous to health.

### 4. FIRST AID MEASURES

**First aid measures**

<b>Eye Contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.
<b>Skin Contact</b>	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
<b>Inhalation</b>	Remove to fresh air. If symptoms persist, call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician.

**Most important symptoms and effects, both acute and delayed**



**Most Important Symptoms and Effects** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

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

**Unsuitable extinguishing media**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific Hazards Arising from the Chemical**

No information available.

**Uniform Fire Code** COMBUSTIBLE DUST/POWDER

**Hazardous Combustion Products**

Carbon oxides.

**Explosion Data**

**Sensitivity to Mechanical Impact** No.

**Sensitivity to Static Discharge** No.

**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** Avoid contact with eyes.

**Environmental Precautions**

**Environmental Precautions** Refer to protective measures listed in Sections 7 and 8.

**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** Pick up and transfer to properly labeled containers.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with eyes.

### Conditions for safe storage, including any incompatibilities

**Storage** Keep container tightly closed.

**Incompatible Products** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

### Appropriate engineering controls

**Engineering Measures** Showers  
Eyewash stations  
Ventilation systems

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

**Eye/Face Protection** No special protective equipment required.

**Skin and Body Protection** No special protective equipment required.

**Respiratory Protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Physical and Chemical Properties

<b>Physical State</b>	Powder(s) Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Purple	<b>Odor Threshold</b>	No information available
<b>Color</b>	No information available		
<b>Property</b>	<b>Values</b>	<b>Remarks/ Method</b>	
pH	No data available	None known	
Melting / freezing point	No data available	None known	
Boiling point / boiling range	No data available	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		

<b>Lower flammability limit</b>	No data available	
<b>Vapor pressure</b>	No data available	None known
<b>Vapor density</b>	No data available	None known
<b>Specific Gravity</b>	No data available	None known
<b>Water Solubility</b>	Moderate	None known
<b>Solubility in other solvents</b>	No data available	None known
<b>Partition coefficient: n-octanol/water</b>	No data available	None known
<b>Autoignition temperature</b>	No data available	None known
<b>Decomposition temperature</b>	No data available	None known
<b>Kinematic viscosity</b>	No data available	None known
<b>Dynamic viscosity</b>	No data available	None known
<b>Explosive properties</b>	No data available	
<b>Oxidizing Properties</b>	No data available	

**Other Information**

<b>Softening Point</b>	No data available
<b>VOC Content (%)</b>	No data available
<b>Particle Size</b>	No data available
<b>Particle Size Distribution</b>	

## 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous Polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

None known based on information supplied.

**Incompatible materials**

None known based on information supplied.

**Hazardous Decomposition Products**

Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

<b>Product Information</b>	Product does not present an acute toxicity hazard based on known or supplied information.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye Contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin Contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.



**Component Information****Information on toxicological effects**

**Symptoms** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Sensitization** No information available.

**Mutagenic Effects** No information available.

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive Toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Chronic Toxicity** No known effect based on information supplied.

**Target Organ Effects** None known.

**Aspiration Hazard** No information available.

**Numerical measures of toxicity Product Information**

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

Not applicable

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

The environmental impact of this product has not been fully investigated.

**Persistence and Degradability**

No information available.

**Bioaccumulation**

No information available

**Other adverse effects**

No information available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

#### **Disposal methods**

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**

Dispose of contents/containers in accordance with local regulations.

### 14. TRANSPORT INFORMATION

<b><u>DOT</u></b>	NOT REGULATED
<b>Proper Shipping Name</b>	NON REGULATED
<b>Hazard Class</b>	N/A
<b><u>TDG</u></b>	Not regulated
<b><u>MEX</u></b>	Not regulated
<b><u>ICAO</u></b>	Not regulated
<b><u>IATA</u></b>	Not regulated
<b>Proper Shipping Name</b>	NON REGULATED
<b>Hazard Class</b>	N/A
<b><u>IMDG/IMO</u></b>	Not regulated
<b>Hazard Class</b>	N/A
<b><u>RID</u></b>	Not regulated
<b><u>ADR</u></b>	Not regulated
<b><u>ADN</u></b>	Not regulated

### 15. REGULATORY INFORMATION

#### International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

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

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

#### 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**

This product does not contain any Proposition 65 chemicals.

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

This product does not contain any substances regulated by state right-to-know regulations.

**International Regulations**

**Canada**

**WHMIS Hazard Class**

Non-controlled

**16. OTHER INFORMATION**

<b>NFPA</b>	<b>Health Hazards</b> 1	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Physical and Chemical Hazards -</b>
<b>HMIS</b>	<b>Health Hazards</b> 1	<b>Flammability</b> 0	<b>Physical Hazard</b> 0	<b>Personal Protection</b>
				X

**Prepared By** Product Stewardship  
 23 British American Blvd.  
 Latham, NY 12110  
 1-800-572-6501

**Revision Date** 14-Oct-2014

**Revision Note** No information available

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**End of Safety Data Sheet**

