

Section 1 Chemical Product and Company Identification

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HOME SCIENCE TOOLS

665 Carbon Street
Billings, MT 59102
800-860-6272
www.homesciencetools.com

CHEMTREC 24 Hour Emergency USA
Phone Number (800) 424-9300
1 703-741-5500 (from anywhere in the world).
For laboratory and industrial use only.
Not for drug, food or household use.

Product CALCIUM CHLORIDE, DIHYDRATE**Synonyms** Calcium Chloride, Hydrated**Section 2 Hazards Identification****Signal word:** WARNING**Pictograms:** GHS07**Target organs:** None known**GHS Classification:**

Eye irritation (Category 2A)

GHS Label information: Hazard statement:

H319: Causes serious eye irritation.

Precautionary statement:

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313: If eye irritation persists: Get medical attention.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Calcium chloride, dihydrate	10035-04-8	100%	233-140-8 (anhydrous)
Contains:			
Calcium chloride, anhydrous	10043-52-4	77-80%	233-140-8
Water	7732-18-5	15-20%	231-791-2
Potassium chloride	7447-40-7	2-3%	231-211-8
Sodium chloride	7647-14-5	1-2%	231-598-3

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Heat is generated when product mixes with water.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Hygroscopic material. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Particulates not otherwise classified	None established	TWA: 15 mg/m ³ total dust	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. White flakes. Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 772°C (1422°F) Boiling point: Data not available Flash point: Not applicable	Evaporation rate (= 1): Not applicable Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Negligible Vapor density (Air = 1): Data not available Relative density (Specific gravity): Data not available Solubility(ies): Soluble in water.	Partition coefficient: Not applicable Auto-ignition temperature: Not applicable Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: CaCl ₂ ·2H ₂ O Molecular weight: 147.02
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Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Hygroscopic material. Avoid moisture.

Incompatible materials: Heat is generated when mixed with water. Spattering and boiling can occur. Avoid contact with sulfuric acid. Corrosive when wet. Flammable hydrogen may be generated from contact with metals such as zinc and sodium.

Hazardous decomposition products: None known.

Section 11 Toxicological Information

Acute toxicity: Oral-rat LD50: 2100 mg/kg ; Dermal-rabbit LD50: >5000 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Dust may cause irritation to the upper respiratory tract (nose and throat).

Ingestion: Low toxicity if swallowed. However, large amounts may result in gastrointestinal irritation or ulceration.

Skin: Contact with skin may cause irritation and/or defatting on prolonged contact.

Eyes: Contact with eyes may cause severe irritation and/or corneal injury.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: EV9810000

Section 12 Ecological Information

Toxicity to fish: Lepomis macrochirus (bluegill) LC50: 8,350-10,650 mg/L

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (water flea), LC50: 759-3,005 mg/L

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2016 ERG Guide #: Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Calcium chloride	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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 For laboratory and industrial use only.
 Not for drug, food or household use.

Product	MAGNESIUM SULFATE, HEPTAHYDRATE
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Synonyms	Epsom Salts
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Section 2 Hazards Identification

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None

Pictograms: No symbol required

Target organs: None known

GHS Classification: Not classified

GHS Label information: Hazard statement: Not classified

Precautionary statement: Not classified

Supplementary information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Magnesium sulfate	10034-99-8	100%	231-298-2 (anhydrous)

Section 4 First Aid Measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Magnesium sulfate	None established	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid, White crystalline powder Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: Data not available Boiling point: Data not available Flash point: Data not available	Evaporation rate (= 1): Data not available Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Relative density (Specific gravity): 2.7 Solubility(ies): Appreciable in water.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available Viscosity: Data not available. Molecular formula: MgSO ₄ ·7H ₂ O Molecular weight: 246.48
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Section 10 Stability & Reactivity

Chemical stability: Stable **Hazardous polymerization:** Will not occur.

Conditions to avoid: Excessive temperatures and heat. Protect from moisture.

Incompatible materials: None known.

Hazardous decomposition products: Sulfur oxides.

Section 11 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May cause respiratory irritation.

Ingestion: Ingestion may cause nausea, vomiting and diarrhea.

Skin: Contact with skin may cause irritation.

Eyes: Contact with eyes may cause irritation.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: Data not available

Section 12 Ecological Information

Toxicity to fish: Gambusia affinis (fish, fresh water), LC50: 15,500 mg/L/24 hours

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50: 1,700 mg/L/24 hours

Toxicity to algae: Scenedesmus subspicatus (Algae), EC50: 2,700 mg/L/ 72 hours

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2016 ERG Guide #: Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Magnesium sulfate	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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Not for drug, food or household use.

Product IRON METAL FILINGS, DEGREASED**Synonyms** Iron Aggregate / Iron Filings / Iron / Iron Metal**Section 2 Hazards Identification**

This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals.

Signal word: None assigned**Pictograms:** None assigned**Target organs:** None known**GHS Classification:**

None assigned

GHS Label information: Hazard statement:

None assigned

Precautionary statement:

None assigned

Supplemental information:

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Iron aggregate	65997-19-5	100%	266-048-1
Contains:			
Iron	1309-37-1	Balance	
Carbon	7440-44-0	<3.0%	
Silicon	7440-21-3	<3.0%	
Manganese	7439-96-5	<1.0%	
Phosphorous	7723-14-0	<0.1%	
Sulfur	7704-34-9	<0.1%	

Section 4 First Aid Measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam. Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. A fire hazard in the form of a fine dust dispersed in air or by chemical reaction with strong oxidizers can be an explosion hazard, especially when heated.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Particulates not otherwise specified	TWA: 15 mg/m ³ Total dust	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Solid. Grey particles.

Odor: No odor.

Odor threshold: Data not available.

pH: Data not available.

Melting / Freezing point: 1508.49°C (2750°F)

Boiling point: Data not available

Flash point: Data not available

Evaporation rate (= 1): Data not available

Flammability (solid/gas): Data not available.

Explosion limits: Lower / Upper: Data not available

Vapor pressure (mm Hg): Data not available

Vapor density (Air = 1): Data not available

Relative density (Specific gravity): 6.7 gm/cc

Solubility(ies): Insoluble in water.

Partition coefficient: Data not available

Auto-ignition temperature: Data not available

Decomposition temperature: Data not available.

Viscosity: Data not available.

Molecular formula: Mixture

Molecular weight: Mixture

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition. Acids.

Incompatible materials: Strong oxidizers, organic acids, mineral acids, water.

Hazardous decomposition products: None known

Section 11 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation may cause respiratory tract irritation.

Ingestion: No hazard known.

Skin: Contact with skin causes irritation.

Eyes: Contact may cause mechanical irritation and possible scratches to surface of the eye.

Signs and symptoms of exposure: See Potential health effects above.

Additional information: RTECS #: Data not available

Section 12 Ecological Information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: Not applicable

Shipping name: Not Regulated

Hazard class: Not applicable

Packing group: Not applicable

Reportable Quantity: No

Marine pollutant: No

Exceptions: Not applicable

2016 ERG Guide #: Not applicable

Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Iron aggregate	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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Not for drug, food or household use.

Product	HYDROCHLORIC ACID, 32-36%
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Synonyms	Muriatic Acid ; Hydrogen Chloride
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Section 2 Hazards Identification

Signal word: DANGER**Pictograms:** GHS05 / GHS07**Target organs:** Respiratory system, skin, eyes, lungs.**GHS Classification:**

Serious eye damage (Category 1)

Skin corr. (Category 1B)

STOT SE (Category 3)

GHS Label information: Hazard statement(s):

H314: Causes severe skin burns and eye damage.

H335: May cause respiratory irritation.

Precautionary statement(s):

P260: Do not breathe mist/vapours/spray.

P264: Wash hands thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340: IF INHALED: Remove person to fresh air and keep 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.

P310: Immediately call a POISON CENTER or doctor.

P363: Wash contaminated clothing before reuse.

P403/233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%	EINECS
Water	7732-18-5	64-68%	231-791-2
Hydrochloric acid	7647-01-0	32-36%	231-595-7

Section 4 First Aid Measures

INGESTION: Harmful if swallowed. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Causes eye burns. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Causes skin burns. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Contact with metals produce hydrogen, which is flammable and may produce explosive mixtures with air.

Section 6 Accidental Release Measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Neutralize spill with sodium bicarbonate or calcium hydroxide, absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Protect from physical damage and sunlight. Protect from moisture.

Section 8 Exposure Controls / Personal Protection

Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
	Hydrogen chloride	STEL: C 2 ppm / C 2.98 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: Use a chemical fume hood and/or wear a NIOSH/MSHA-approved respirator.

Section 9 Physical & Chemical Properties

Appearance: Clear, colorless, fuming liquid.	Evaporation rate (= 1): Data not available.	Partition coefficient: (n-octanol / water): Data not available.
Odor: Pungent odor.	Flammability (solid/gas): Data not available.	Auto-ignition temperature: Data not available.
Odor threshold: Data not available.	Explosion limits: Upper/Lower: Data not available.	Decomposition temperature: Data not available.
pH: <1.5 acidic, in solution.	Vapor pressure (mm Hg): Approx. 25 @ 20°C (68°F)	Viscosity: Data not available.
Melting / Freezing point: Approx. -45°C (-49°F)	Vapor density (Air = 1): Data not available.	Molecular formula: HCl
Boiling point: 81.11-85°C (178-185°F)	Relative density (Specific gravity): Approx. 1.16 @ 20°C	Molecular weight: 36.46
Flash point: Not flammable.	Solubility(ies): Soluble in water.	

Section 10 Stability & Reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Containers may burst when heated. Avoid contact with water.

Incompatible materials: Metals, bases, active metals, alkali metals, oxidizing agents, hydroxides, amines, carbonates, cyanides, sulfides, sulfites, formaldehyde.

Hazardous decomposition products: Hydrogen chloride gas.

Section 11 Toxicological Information

Acute toxicity: Data not available

Skin corrosion/irritation: Skin-rabbit - causes burns.

Serious eye damage/irritation: Eyes-rabbit - Corrosive to eyes.

Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenicity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

IARC: Group 3: Not classifiable as to its carcinogenicity to humans.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

Skin: May be harmful if absorbed through skin. Causes skin burns.

Eyes: Causes eye burns.

Signs and symptoms of exposure: Burning sensation, cough, wheezing, laryngitis, shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Additional information: RTECS #: MW4025000

Section 12 Ecological Information

Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 282 mg/l - 96 h (Hydrochloric acid)

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal Considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport Information (US DOT / CANADA TDG)

UN/NA number: UN1789

Shipping name: Hydrochloric acid

Hazard class: 8

Packing group: II

Reportable Quantity: No

Marine pollutant: No

Exceptions: Limited quantity equal to or less than 1 Lt

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Section 15 Regulatory Information

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.

Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Hydrochloric acid	Listed	Not listed	D002	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other Information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
 CAS No : 7439-95-4
 Formula : Mg
 Synonyms : Magnesium / magnesium, borings / magnesium, metal / magnesium, ribbons / magnesium, scalplings / magnesium, sheet / magnesium, turnings
 BIG no : 10761

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

Use of the substance/mixture : Laboratory chemicals

1.3. Details of the supplier of the safety data sheet

GSC International, Inc.
 1747 N. Deffer Drive
 Nixa,
 MO 65714
 United States of America

Tel: 417-374-7431
 Fax: 417-374-7442
 Email: info@gscinternationalinc.com

1.4. Emergency telephone number

Country	Organization/Company	Address	Emergency number
MEXICO	Servicio de Informacion Toxicologica Sintox	Tintoreto #32 Edif. a Desp. Col. Nochebuena Mixcoac México, D.F.	1 800 009 2800 +52 55 5611 2634 /+52 55 5598 9095
UNITED STATES OF AMERICA	American Association of Poison Control Centers		1-800-222-1222

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Flam. Sol. 1 H228
 Self-heat. 1 H251
 Water-react. 2 H261

Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard pictograms (GHS-US) :



GHS02

Signal word (GHS-US) :

: Danger

Hazard statements (GHS-US) :

: H228 - Flammable solid
 H251 - Self-heating: may catch fire
 H261 - In contact with water releases flammable gases

Precautionary statements (GHS-US) :

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
 P223 - Do not allow contact with water
 P231+P232 - Handle under inert gas. Protect from moisture
 P235+P410 - Keep cool. Protect from sunlight
 P280 - Wear eye protection, face protection, protective clothing, protective gloves
 P335+P334 - Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages

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P370+P378 - In case of fire: Use dry extinguishing powder, dry sand to extinguish
P402+P404 - Store in a dry place. Store in a closed container
P420 - Store away from other materials
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Name	Product identifier	%	Classification (GHS-US)
Magnesium (Main constituent)	(CAS No) 7439-95-4	> 99,9	Flam. Sol. 1, H228 Self-heat. 1, H251 Water-react. 2, H261

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow victim to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse with water. Do not apply (chemical) neutralizing agents. Consult an ophthalmologist if irritation persists. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persist. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Rinse mouth out with water. Consult a doctor/medical service if you feel unwell. Get medical advice/attention. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center/doctor/physician if you feel unwell.

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

Symptoms/injuries	: Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/injuries after inhalation	: AFTER INHALATION OF FUME: Metal fume fever.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Gastrointestinal complaints. Inflammation/damage of the eye tissue. Possible inflammation of the respiratory tract. Coughing.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Dry sand. Dry powder.
Unsuitable extinguishing media	: Water. Water spray. Foam. Carbon dioxide. Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD. May readily catch fire. Combustibility increases as material becomes thinner. In finely divided state: increased fire hazard. Spontaneously flammable in air. INDIRECT FIRE HAZARD. Heating increases the fire hazard. Reactions involving a fire hazard: see "Reactivity Hazard". Flammable solid. Self-heating: may catch fire.
Explosion hazard	: DIRECT EXPLOSION HAZARD. Fine dust is explosive with air. INDIRECT EXPLOSION HAZARD. Dust cloud can be ignited by a spark. Reactions with explosion hazards: see "Reactivity Hazard". May form flammable/explosive vapor-air mixture.

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Reactivity : Reacts slowly with water (moisture): release of highly flammable gases/vapours (hydrogen). This reaction is accelerated on exposure to (strong) acids. Burning substance reacts explosively with water. Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Reacts with (some) acids: release of highly flammable gases/vapours (hydrogen). Flammable solid. Self-heating: may catch fire.

5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to heat: have neighborhood close doors and windows.

Firefighting instructions : When cooling/extinguishing: no water in the substance. If no hazard for/from the surroundings: controlled burning. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not enter fire area without proper protective equipment, including respiratory protection. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking.

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing. See "Material-Handling" to select protective clothing.

Emergency procedures : Mark the danger area. No naked flames. Keep containers closed. Avoid ingress of water in the containers. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation. Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Avoid release to the environment. Prevent spreading in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Contain leaking substance, pump over in suitable containers. Consult "Material-handling" to select material of containers. Provide equipment/receptacles with earthing. Contact with water: measure explosive gas-air mixture concentration. Hazardous reaction: measure explosive gas-air mixture. Reaction: dilute combustible gas/vapor with water curtain.

Methods for cleaning up : Recover mechanically the product. Collect the spill only if it is in a dry state in closing drums. Consult "Material-handling" to select material of containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapors are flammable. Keep away from any possible contact with water, because of violent reaction and possible flash fire.

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- Precautions for safe handling : Ensure good ventilation of the work station. Meet the legal requirements. Wash contaminated clothing before reuse. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Use earthed equipment. Keep away from naked flames/heat. Avoid contact of substance with water. Finely divided: spark- and explosion proof appliances. Finely divided: keep away from ignition sources/sparks. Observe normal hygiene standards. Keep container tight closed. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. No open flames. No smoking. Handle under inert gas. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Wear personal protective equipment. Protect from moisture. Keep away from any possible contact with water, because of violent reaction and possible flash fire.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Maintain air gap between stacks/pallets. Use explosion-proof Flame proof, lighting, electrical equipment and ventilation equipment.
- Storage conditions : Keep container closed when not in use. Heat sources. Direct sunlight. Keep in fireproof place. Store in a dry place. Protect from moisture. Keep only in the original container in a cool, well ventilated place away from : Direct sunlight, Heat-ignition. Keep cool. Protect from sunlight. Keep away from ignition sources. Store away from other materials. Store in a closed container. Store in a well-ventilated place.
- Incompatible products : Strong bases. Strong acids.
- Incompatible materials : Sources of ignition. Direct sunlight. Keep away from any possible contact with water, because of violent reaction and possible flash fire.
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
- Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. Strong acids. Flammable materials. halogens. moisture.
- Storage area : Store in a dry area. Keep container in a well-ventilated place. Store at ambient temperature. Fireproof storeroom. Provide the tank with earthing. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. watertight. dry. clean. correctly labeled. meet the legal requirements. Secure fragile packaging in solid containers. Store in a closed container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Magnesium Ribbon (7439-95-4)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

- Appropriate engineering controls : Provide adequate general and local exhaust ventilation. Ensure good ventilation of the work station.
- Personal protective equipment : Protective clothing. Protective goggles. Gloves.



- Materials for protective clothing : GIVE GOOD RESISTANCE: leather.
- Hand protection : Gloves. Wear protective gloves.
- Eye protection : Chemical goggles or safety glasses. Safety glasses.
- Skin and body protection : Protective clothing.
- Respiratory protection : Respiratory protection not required in normal conditions. Wear appropriate mask.
- Environmental exposure controls : Avoid release to the environment.
- Other information : Do not eat, drink or smoke during use.

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Metal.
Molecular mass	: 24,31 g/mol
Color	: Silvery-white
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 650 °C
Freezing point	: No data available
Boiling point	: 1107 °C
Flash point	: No data available
Auto-ignition temperature	: 620 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: < 0,1 hPa
Relative vapor density at 20 °C	: No data available
Relative density	: 1,7
Specific gravity / density	: 1738 kg/m ³
Solubility	: insoluble in water. Substance sinks in water. Soluble in mineral acids.
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosive limits	: No data available

9.2. Other information

VOC content : 0 %

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts slowly with water (moisture): release of highly flammable gases/vapours (hydrogen). This reaction is accelerated on exposure to (strong) acids. Burning substance reacts explosively with water. Reacts violently with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion. Reacts with (some) acids: release of highly flammable gases/vapours (hydrogen). Flammable solid. Self-heating: may catch fire.

10.2. Chemical stability

Unstable on exposure to moisture. Flammable solid. May form flammable/explosive vapor-air mixture. Self-heating: may catch fire.

10.3. Possibility of hazardous reactions

In contact with water releases flammable gases.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures. Open flame. Overheating. Heat. Sparks. Avoid contact with hot surfaces. No flames, no sparks. Eliminate all sources of ignition. Water, humidity.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

fume. Carbon monoxide. Carbon dioxide. May release flammable gases.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
(Based on available data, the classification criteria are not met)

Magnesium Ribbon (f)7439-95-4	
LD50 oral rat	> 2000 mg/kg (Rat)

Skin corrosion/irritation : Not classified
(Based on available data, the classification criteria are not met)

Serious eye damage/irritation : Not classified
(Based on available data, the classification criteria are not met)

Respiratory or skin sensitization : Not classified
(Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified
(Based on available data, the classification criteria are not met)Based on available data, the classification criteria are not met

Carcinogenicity : Not classified
(Based on available data, the classification criteria are not met)

Reproductive toxicity : Not classified
(Based on available data, the classification criteria are not met)Based on available data, the classification criteria are not met

Specific target organ toxicity (single exposure) : Not classified
(Based on available data, the classification criteria are not met)

Specific target organ toxicity (repeated exposure) : Not classified
(Based on available data, the classification criteria are not met)

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met)

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : AFTER INHALATION OF FUME: Metal fume fever.

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Gastrointestinal complaints. Inflammation/damage of the eye tissue. Possible inflammation of the respiratory tract. Coughing.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Ecology - air : Not dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : No water pollutant (surface water). Not harmful to aquatic organisms.

12.2. Persistence and degradability

Magnesium Ribbon (7439-95-4)	
Persistence and degradability	Biodegradability: Not applicable. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

Magnesium Ribbon (7439-95-4)	
Bioaccumulative potential	Not established.

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12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone layer :

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Reuse or recycle following decontamination. Remove for physico-chemical/biological treatment. Remove to an authorized dump (Class I). Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to a licensed waste centre in accordance with local/regional/national/international regulations.

Additional information : LWCA (the Netherlands): KGA category 06. Can be considered as non hazardous waste according to Directive 2008/98/EC.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT

Transport document description : UN1869 Magnesium, 4.1, III

UN-No.(DOT) : UN1869

Proper Shipping Name (DOT) : Magnesium

Department of Transportation (DOT) Hazard Classes : 4.1 - Class 4.1 - Flammable Solid 49 CFR 173.124

Hazard labels (DOT) : 4.1 - Flammable solid



Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : A1 - Single packaging are not permitted on passenger aircraft.
IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).
IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.
T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)
TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx) : 151

DOT Packaging Non Bulk (49 CFR 173.xxx) : 213

DOT Packaging Bulk (49 CFR 173.xxx) : 240

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 25 kg

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DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 100 kg

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other : 39 - Stow "away from" liquid halogenated hydrocarbons, 52 - Stow "separated from" acids, 53 - Stow "separated from" alkaline compounds, 74 - Stow "separated from" oxidizers, 101 - Stow "separated from" iron oxide

Additional information

Other information : No supplementary information available.

ADR

Transport document description : UN 1869 MAGNESIUM, 4.1, III, (E)
Packing group (ADR) : III
Class (ADR) : 4.1 - Flammable solids, self-reactive substance and solid desensitized explosives
Hazard identification number (Kemler No.) : 40
Classification code (ADR) : F3
Hazard labels (ADR) : 4.1 - Flammable solid



Orange plates :



Tunnel restriction code (ADR) : E
LQ : 5kg
Excepted quantities (ADR) : E1

Transport by sea

UN-No. (IMDG) : 1869
Proper Shipping Name (IMDG) : MAGNESIUM
Class (IMDG) : 4.1 - Flammable solids, self-reactive substance and solid desensitized explosives
Packing group (IMDG) : III - substances presenting low danger

Air transport

UN-No. (IATA) : 1869
Proper Shipping Name (IATA) : Magnesium
Class (IATA) : 4.1 - Flammable solids
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Magnesium Ribbon (7439-95-4)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

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

Flam. Sol. 1 H228

Water-react. 2 H261

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Self-heat. 1 H251

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

F; R11

F; R15

Full text of R-phrases: see section 16

15.2.2. National regulations

15.3. US State regulations

No additional information available

SECTION 16: Other information

Revision date : 12/15/2014

Data sources : REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labeling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of H-phrases:

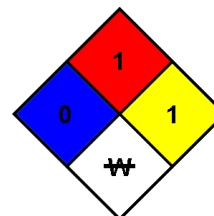
Flam. Sol. 1	Flammable solids Category 1
Self-heat. 1	Self-heating substances and mixtures Category 1
Water-react. 2	Substances and mixtures which in contact with water emit flammable gases Category 2
H228	Flammable solid
H251	Self-heating: may catch fire
H261	In contact with water releases flammable gases

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.

NFPA specific hazard : W - Unusual reactivity with water. This indicates a potential hazard using water to fight a fire involving this material. When a compound is both water-reactive and an oxidizer, the W/bar symbol should go in this quadrant and the OX warning is placed immediately below the NFPA diamond.



HMIS III Rating

Health : 0 Minimal Hazard - No significant risk to health

Flammability : 1 Slight Hazard

Physical : 1 Slight Hazard

Personal Protection : C

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product