

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 12/15/2014 Revision date: 12/15/2014 Version: 1.1

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,

scalpings / 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

EN (English US) Page 1

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

Other hazards 2.3

No additional information available

Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/information on ingredients

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

Mixture

Not applicable

Description of first aid measures

: If you feel unwell, seek medical advice. Never give anything by mouth to an unconscious First-aid measures general

person. If you feel unwell, seek medical advice (show the label where possible).

Remove person to fresh air and keep comfortable for breathing. Allow victim to breathe fresh First-aid measures after inhalation

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.

: Rinse with water. Do not apply (chemical) neutralizing agents. Consult an ophtalmologist if First-aid measures after eye contact

irritation persists. Rinse immediately with plenty of water. Obtain medical attention if pain,

blinking or redness persist. Rinse eyes with water as a precaution.

Rinse mouth out with water. Consult a doctor/medical service if you feel unwell. Get medical First-aid measures after ingestion

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.

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

ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Gastrointestinal complaints. Chronic symptoms

Inflammation/damage of the eye tissue. Possible inflammation of the respiratory tract.

Coughing.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

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.

DIRECT EXPLOSION HAZARD. Fine dust is explosive with air. INDIRECT EXPLOSION Explosion hazard

HAZARD. Dust cloud can be ignited by a spark. Reactions with explosion hazards: see

"Reactivity Hazard". May form flammable/explosive vapor-air mixture.

EN (English US) 2/9

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

: 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.

EN (English US) 3/9

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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.

Conditions for safe storage, including any incompatibilities 7.2.

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 explosionproof 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 Prohibitions on mixed storage KEEP SUBSTANCE AWAY FROM: heat sources. 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.

Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

Control parameters 8.1.

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

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 Respiratory protection

Protective clothing.

Environmental exposure controls

Respiratory protection not required in normal conditions. Wear appropriate mask.

Avoid release to the environment.

Other information

: Do not eat, drink or smoke during use.

EN (English US) 4/9

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: SolidAppearance: Metal.Molecular mass: 24,31 g/molColor: Silvery-whiteOdor: 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/m³

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.

EN (English US) 5/9

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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	: Not classified
exposure)	(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.

EN (English US) 6/9

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on ozone laver

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

: 4.1 - Class 4.1 - Flammable Solid 49 CFR 173.124

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

Hazard labels (DOT) : 4.1 - Flammable solid



Packing group (DOT) : III - Minor Danger

DOT Special Provisions (49 CFR 172.102) : A1 - Single pac

: 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 : 25 kg (49 CFR 173.27)

EN (English US) 7/9

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Quantity Limitations Cargo aircraft only (49 : 100 kg

CFR 175.75)

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

40 1869

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

EN (English US) 8/9

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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 **National regulations** 15.2.2.

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.

: W - Unusual reactivity with water. This indicates a potential NFPA specific hazard

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

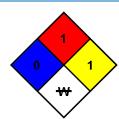
Health : 0 Minimal Hazard - No significant risk to health

Flammability : 1 Slight Hazard : 1 Slight Hazard **Physical**

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



EN (English US) 9/9