

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 subst	tance or mixture and uses advised against
Use of the substance/mixture	: Laboratory chemicals
1.3. Details of the supplier of the safety of	data sheet
GSC International Inc	

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)

Signal word (GHS-US) Hazard statements (GHS-US)

Precautionary statements (GHS-US)



- : Danger
 - H228 Flammable solid
 - H251 Self-heating: may catch fire
 - H261 In contact with water releases flammable gases
- : 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		feel unwell, seek medical advice. Never n. If you feel unwell, seek medical advice		
First-aid measures after inhalation		ove person to fresh air and keep comforta llow the victim to rest.	able for breathin	g. Allow victim to breathe fresh
First-aid measures after skin contact	by wa banda	ove affected clothing and wash all expose arm water rinse. Brush off loose particles ages. Brush off loose particles from skin. a skin with plenty of water.	from skin. Imme	erse in cool water/wrap in wet
First-aid measures after eye contact	irritati	with water. Do not apply (chemical) neu on persists. Rinse immediately with plen ng or redness persist. Rinse eyes with w	ty of water. Obta	ain medical attention if pain,
First-aid measures after ingestion	advic	e mouth out with water. Consult a doctor/ e/attention. Rinse mouth. Do NOT induc a poison center/doctor/physician if you fe	e vomiting. Obta	
4.2. Most important symptoms and effe	cts, both	acute and delayed		
Symptoms/injuries	: Not e	xpected to present a significant hazard υ	Inder anticipated	d conditions of normal use.
Symptoms/injuries after inhalation	: AFTE	R INHALATION OF FUME: Metal fume	fever.	
Chronic symptoms		ONTINUOUS/REPEATED EXPOSURE/ nmation/damage of the eye tissue. Possi hing.		•

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 sul	bstance 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 meas	ures
6.1. Personal precautions, protective equ	ipment 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 spread public waters.	ing in sewers. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or

6.3.	Methods and material for containment	nt and cleaning up
For cont	ainment	: 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 inf	formation	: 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.		

SECT	ION 7: Handling and storage	
7.1.	Precautions for safe handling	
Additior	al 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, includin	ng a	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 (7439-9	5-4)	
ACGIH	Not applicable	
OSHA	Not applicable	

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8.2.	Exposure controls	

Materials for protective clothing

Environmental exposure controls

Skin and body protection

Respiratory protection

Other information

Hand protection

Eye protection

 Appropriate engineering controls
 :

 Personal protective equipment
 :

- : Provide adequate general and local exhaust ventilation. Ensure good ventilation of the work station.
- : Protective clothing. Protective goggles. Gloves.



- : GIVE GOOD RESISTANCE: leather.
- : Gloves. Wear protective gloves.
- : Chemical goggles or safety glasses. Safety glasses.
- : Protective clothing.
- : Respiratory protection not required in normal conditions. Wear appropriate mask.
- : Avoid release to the environment.
- : Do not eat, drink or smoke during use.

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SECTION 9: Physical and chemical p	properties
9.1. Information on basic physical and c	hemical properties
Physical state	: Solid
Appearance	: Metal.
Molecular mass	: 24,31 g/mol
Color	: Silvery-white
Odor	: Odorless
Odor threshold	: No data available
рН	: 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.

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SECTION 11: Toxicological information

Information on toxicological effects 11.1.

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.

SECTIO	ON 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 consideration	S
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)	 In this barget 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
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 213
DOT Packaging Bulk (49 CFR 173.xxx) DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 240 : 25 kg
	EN (English LIS) 7/0

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DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 100 kg
,	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
OOT 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
dditional information	
Other information	: No supplementary information available.
ADR	
ransport document description	: UN 1869 MAGNESIUM, 4.1, III, (E)
acking group (ADR)	: 11
lass (ADR)	: 4.1 - Flammable solids, self-reactive substance and solid desensitized explosives
	: 40
lassification code (ADR)	: F3
azard labels (ADR)	: 4.1 - Flammable solid
Drange plates	40 1869
unnel restriction code (ADR)	: E
Q	: 5kg
xcepted quantities (ADR)	: E1
ransport by sea	
	: 1869
	: MAGNESIUM
	: 4.1 - Flammable solids, self-reactive substance and solid desensitized explosives
	: III - substances presenting low danger
	·
ir transport	: 1869
	: Magnesium
	-
	: 4.1 - Flammable solids

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.

Other information

Full text of H-phrases:

	lam. Sol. 1	Flammable solids Category 1
S	elf-heat. 1	Self-heating substances and mixtures Category 1
W	/ater-react. 2	Substances and mixtures which in contact with water emit flammable
		gases Category 2
Н	228	Flammable solid
Н	251	Self-heating: may catch fire
Н	261	In contact with water releases flammable gases
NFPA hea	lth 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 read	ctivity	: 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 spe	cific 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 R	ating	
Health		: 0 Minimal Hazard - No significant risk to health
Flammabil	lity /	: 1 Slight Hazard
1 Iunnuon	iity	
Physical	iity	: 1 Slight Hazard

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