acc. to Safe Work Australia - Code of Practice

Magnesium powder ≥99,8 %, <75 μm

article number: CP20 date of compilation: 2019-01-21 Version: GHS 3.0 en Revision: 2024-03-02

Replaces version of: 2022-06-14

Version: (GHS 2)

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

Product identifier 1.1

Identification of the substance Magnesium powder ≥99,8 %, <75 µm

Article number CP20

CAS number 7439-95-4

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

Uses advised against: Do not use for private purposes (household).

Food, drink and animal feedingstuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG Schoemperlenstr. 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 Telefax: +49 (0) 721 - 56 06 149 e-mail: sicherheit@carlroth.de Website: www.carlroth.de

sheet:

e-mail (competent person):

sicherheit@carlroth.de

1.4 **Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 West- mead, NSW	131126	

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
2.7	Flammable solid	1	Flam. Sol. 1	H228
2.12	Substance and mixture which, in contact with water, emits flammable gas	2	Water-react. 2	H261

This substance is marketed in a form which has the physical properties as indicated. For full text of abbreviations: see SEC-TION 16

The most important adverse physicochemical, human health and environmental effects

In contact with water releases flammable gases which may ignite spontaneously.

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2.2 Label elements

Labelling

Signal word Danger

Pictograms

GHS02



Hazard statements

H228 Flammable solid

H261 In contact with water releases flammable gases

Precautionary statements

Precautionary statements - prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P231+P232 Handle and store contents under inert gas. Protect from moisture
P280 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary statements - response

P302+P335+P334 IF ON SKIN: Brush off loose particles from skin. Immerse in cool water or wrap in

wet bandages

P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

Precautionary statements - storage

P402+P404 Store in a dry place. Store in a closed container

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of \geq 0,1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance Magnesium powder

Molecular formula Mg

Molar mass 24.31 ^g/_{mol}
CAS No 7439-95-4

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SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower.

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings dry extinguishing powder, D-powder, dry sand

Unsuitable extinguishing media

water, carbon dioxide (CO₂)

5.2 Special hazards arising from the substance or mixture

Product may release hydrogen gas. Increased storage temperatures will accelerate this process. Water-reactive (in contact with water releases flammable gases).

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Avoid contact with skin, eyes and clothes. Do not breathe dust.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically. Control of dust. Take up carefully when dry.

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid dust formation.

Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. When using do not smoke.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place.

Incompatible substances or mixtures

Observe hints for combined storage. Do not allow contact with water.

Evaporative conditions

Keep container tightly closed and in a well-ventilated place.

Consideration of other advice:

Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

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No information available.

SECTION 8: Exposure controls/personal protection

8.1 **Control parameters**

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Coun try	Name of agent	CAS No	Identifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
AU	nuisance dusts		WES	10			i	WES

Notation

Ceiling value is a limit value above which exposure should not occur Inhalable fraction Ceiling-C

STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-

minute period (unless otherwise specified) Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 TWA

hours time-weighted average (unless otherwise specified)

Human health values

Relevant DNELs and other threshold levels

Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DNEL	10 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

Environmental values

Relevant PNECs and other threshold levels

End- point	Threshold level	Organism	Environmental com- partment	Exposure time
PNEC	0.41 ^{mg} / _{cm³}	unknown	marine water	intermittent release
PNEC	268 ^{mg} / _{cm³}	unknown	freshwater sediment	intermittent release
PNEC	0.41 ^{mg} / _{cm³}	unknown	freshwater	intermittent release
PNEC	0.41 ^{mg} / _l	aquatic organisms	freshwater	short-term (single instance)
PNEC	0.41 ^{mg} / _l	aquatic organisms	marine water	short-term (single instance)
PNEC	10.8 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	268 ^{mg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	268 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single instance)
PNEC	268 ^{mg} / _{kg}	terrestrial organisms	soil	short-term (single instance)

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8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection





Use safety goggle with side protection.

Skin protection





hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

type of material

NBR (Nitrile rubber)

material thickness

>0,11 mm

· breakthrough times of the glove material

>480 minutes (permeation: level 6)

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection





Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P1 (filters at least 80 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state solid

Form powder
Colour silver grey
Odour odourless

Melting point/freezing point 650 °C at 1,013 mbar (ECHA)

Boiling point or initial boiling point and boiling

range

1,095 °C

Flammability flammable solid in accordance with GHS criteria

substance which, in contact with water, emits flammable gases (in accordance with GHS criter-

ia)

Lower and upper explosion limit not determined

Flash point not applicable
Auto-ignition temperature not determined

Decomposition temperature not relevant

pH (value) not applicable

Kinematic viscosity not relevant

Solubility(ies)

Water solubility 0.006 ^g/_L at 21 °C (practically insoluble) (ECHA)

Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure 3.72 hPa at 650 °C

Density and/or relative density

Density $1.75 \, \mathrm{g/_{cm^3}}$

Relative vapour density Information on this property is not available.

Bulk density $300 - 400 \text{ kg/m}^3$

Particle characteristics

Particle size <75 µm

Other safety parameters

Oxidising properties none

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9.2 Other information

Information with regard to physical hazard

classes:

Other safety characteristics:

There is no additional information.

There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance. Risk of ignition. Reactivity with water.

If heated

Risk of ignition.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Danger of explosion: strong oxidiser, Ammonium compounds, Chlorates, Perchlorates, Halogenated hydrocarbons,

Violent reaction with: Water, Hydrogen peroxide, Nitrogen oxides (NOx), Nitrate, Acids, Alkalis, **Risk of ignition:** Material reacts vigorously with water emitting flammable gases, Self-heating in large quantities; may catch fire,

=> Explosive properties

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Humidity.

10.5 Incompatible materials

There is no additional information.

Release of flammable materials with

Water

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4. May be harmful if swallowed.

Acute toxicity

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>2,000 ^{mg} / _{kg}	rat		ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

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Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

If swallowed

gastrointestinal complaints

• If in eyes

slightly irritant but not relevant for classification

• If inhaled

cough, breathing difficulties

• If on skin

Data are not available.

Other information

none

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of \geq 0,1%.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life.

Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
LC50	2,800 ^{mg} / _l	fish	ECHA	48 h
ErC50	>12 ^{mg} / _l	algae	ECHA	72 h

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Aquatic toxicity (ac	ute)			
Endpoint	Value	Species	Source	Exposure time
EC50	>12 ^{mg} / _l	algae	ECHA	72 h

Aquatic toxicity (chronic)

Endpoint	Value	Species	Source	Exposure time
LC50	190 ^{mg} / _l	aquatic invertebrates	ECHA	21 d
EC50	125 ^{mg} / _l	aquatic invertebrates	ECHA	21 d

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of \geq 0,1%.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Recycling/reclamation of metals and metal compounds.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

Relevant provisions relating to waste(Basel Convention)

Properties of waste which render it hazardous

H4.3 Substances or wastes which, in contact with water emit ammable gases

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Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number

UN 1418
IMDG-Code UN 1418
ICAO-TI UN 1418

14.2 UN proper shipping name

UN RTDGMAGNESIUM POWDERIMDG-CodeMAGNESIUM POWDERICAO-TIMagnesium powder

14.3 Transport hazard class(es)

UN RTDG 4.3 (4.2)

IMDG-Code 4.3 (4.2) ICAO-TI 4.3 (4.2)

14.4 Packing group

UN RTDG II
IMDG-Code II
ICAO-TI II

14.5 Environmental hazards non-environmentally hazardous acc. to the dan-

gerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport informationNational regulationsAdditional information(UN RTDG)

UN number 1418
Class 4.3
Subsidiary risk(s) 4.2
Packing group II

Danger label(s) 4.3+4.2



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Special provisions (SP)

UN RTDG

Excepted quantities (EQ) E2

UN RTDG

Limited quantities (LQ) 0

UN RTDG

Emergency Action Code 4W

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name MAGNESIUM POWDER

Particulars in the shipper's declaration UN1418, MAGNESIUM POWDER, 4.3 (4.2), II

Marine pollutant -

Danger label(s) 4.3+4.2





Excepted quantities (EQ) E2
Limited quantities (LQ) 0

EmS F-G, S-O

Stowage category A

Segregation group 15 - Powdered metals

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name Magnesium powder

Particulars in the shipper's declaration UN1418, Magnesium powder, 4.3 (4.2), II

Danger label(s) 4.3+4.2





Special provisions (SP) A3
Excepted quantities (EQ) E2

SECTION 15: Regulatory information

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

There is no additional information.

National regulations(Australia)

Australian Inventory of Chemical Substances(AICS)

Substance is listed.

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

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National inventories

Country	Inventory	Status	
AU	AIIC	substance is listed	
CA	DSL	substance is listed	
CN	IECSC	substance is listed	
EU	ECSI	substance is listed	
EU	REACH Reg.	substance is listed	
KR	KECI	substance is listed	
MX	INSQ	substance is listed	
NZ	NZIoC	substance is listed	
PH	PICCS	substance is listed	
TR	CICR	substance is listed	
TW	TCSI	substance is listed	
US	TSCA	substance is listed (ACTIVE)	
VN	NCI	substance is listed	

Legend

AIIC Australian Inventory of Industrial Chemicals
CICR Chemical Inventory and Control Regulation
DSL Domestic Substances List (DSL)
ECSI EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC Inventory of Existing Chemical Substances Produced or Imported in China
INSQ National Inventory of Chemical Substances
KECI Korea Existing Chemicals Inventory
NCI National Chemical Inventory
NZIOC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg. REACH registered substances
TCSI Taiwan Chemical Substance Inventory

Taiwan Chemical Substance Inventory Toxic Substance Control Act

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
14.8		Emergency Action Code: 4W	yes
15.1		National inventories: change in the listing (table)	yes

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Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations	
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances	
Ceiling-C	Ceiling value	
DGR	Dangerous Goods Regulations (see IATA/DGR)	
DNEL	Derived No-Effect Level	
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval	
ED	Endocrine disruptor	
EINECS	European Inventory of Existing Commercial Chemical Substances	
ELINCS	European List of Notified Chemical Substances	
EmS	Emergency Schedule	
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control	
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Na tions	
IATA	International Air Transport Association	
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)	
ICAO	International Civil Aviation Organization	
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air	
IMDG	International Maritime Dangerous Goods Code	
IMDG-Code	International Maritime Dangerous Goods Code	
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 lethality during a specified time interval	
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during specified time interval	
NLP	No-Longer Polymer	
PBT	Persistent, Bioaccumulative and Toxic	
PNEC	Predicted No-Effect Concentration	
STEL	Short-term exposure limit	
TWA	Time-weighted average	
UN RTDG	UN Recommendations on the Transport of Dangerous Good	
vPvB	Very Persistent and very Bioaccumulative	
WES Safe Work Australia: Workplace exposure standards for airborne contaminants		

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H228	Flammable solid.
H261	In contact with water releases flammable gases.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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