

Chemical Safety Data Sheet MSDS / SDS

PHENETHYLMAGNESIUM CHLORIDE

Revision Date:2026-05-31 Revision Number:1

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

Product identifier

Product name : PHENETHYLMAGNESIUM CHLORIDE
CBnumber : CB4266071
CAS : 90878-19-6
Synonyms : phenethylmagnesium chloride

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.
Uses advised against : none

Company Identification

Company : Chemicalbook
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing
Telephone : 010-86108875

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
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. Continuerinsing.
P370+P378 In case of fire: Use ... for extinction.
P403+P235 Store in a well-ventilated place. Keep cool.

Hazard statements

H225 Highly Flammable liquid and vapour
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage

H335 May cause respiratory irritation

H351 Suspected of causing cancer

SECTION 3: Composition/information on ingredients

Substance

Product name	: PHENETHYLMAGNESIUM CHLORIDE
Synonyms	: phenethylmagnesium chloride
CAS	: 90878-19-6
MF	: C ₈ H ₉ ClMg
MW	: 164.92

SECTION 4: First aid measures

General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.

In case of eye contact

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

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Protection of first-aiders

For personal protection see section 8.

Notes to physician

No data available

SECTION 5: Firefighting measures

Suitable extinguishing media

Carbon dioxide (CO₂) Dry powder

Unsuitable extinguishing media

Water Foam

Specific hazards during fire fighting

Combustible. Pay attention to flashback. Vapors are heavier than air and may spread along floors. May not get in touch with: Water
Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.

Hazardous combustion products

Carbon oxides Hydrogen chloride gas Magnesium oxide

Specific extinguishing methods

Remove container from danger zone and cool with water. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters

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

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental precautions

Do not let product enter drains. Risk of explosion.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.

SECTION 7: Handling and storage

Handling

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Advice on safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols. Keep workplace dry. Do not allow product to come into contact with water.

Avoidance of contact

Water Bases Oxidizing agents Strong oxidizing agents Oxygen acids

Storage**Further information on storage conditions**

Keep container tightly closed in a dry and wellventilated place. Keep away from heat and sources of ignition.

Materials to avoid

Never allow product to get in contact with water during storage.

Storage class

3, Flammable liquids

Recommended storage temperature

Recommended storage temperature see product label.

Further information on storage stability

Test for peroxide formation periodically and before distillation.

SECTION 8: Exposure controls/personal protection

Ingredients with workplace control parameters

Biological occupational exposure limits

Engineering measures

No data available

Personal protective equipment**Respiratory protection**

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type

Filter type ABEK

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

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Tightly fitting safety goggles

Skin and body protection

Flame retardant antistatic protective clothing.

Hand protection**Remarks**

required

Hygiene measures

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

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

liquid

Color

Yellow to brown

Odor

No data available

Odor Threshold

No data available

pH

No data available

Melting point/ range

No data available

Boiling point/boiling range

65 °C

Flash point

-17 °C

Method: closed cup

Evaporation rate

No data available

Flammability (solid, gas)

No data available

Flammability (liquids)

No data available

Burning rate

No data available

Upper explosion limit / Upper flammability limit

No data available

Lower explosion limit / Lower flammability limit

No data available

Vapor pressure

No data available

Relative vapor density

No data available

Relative density

0.954 g/mL at 25 °C

Density

0.954 g/cm³ (25 °C)

Water solubility

No data available

Partition coefficient: n-octanol/water

No data available

Autoignition temperature

No data available

Decomposition temperature

No data available

Viscosity, dynamic

No data available

Viscosity, kinematic

No data available

Flow time

No data available

Explosive properties

Not classified as explosive.

Oxidizing properties

none

Molecular weight

164.92 g/mol

Particle characteristics Particle size

No data available

Physical state

Liquid

SECTION 10: Stability and reactivity

Reactivity

Formation of peroxides possible. Vapors may form explosive mixture with air.

Chemical stability

sensitive to moisture

Possibility of hazardous reactions

No data available

Conditions to avoid

Warming. Moisture.

Incompatible materials

Water Bases Oxidizing agents Strong oxidizing agents Oxygen acids

Hazardous decomposition products

Peroxides : In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture Acute toxicity

Oral: No data available

Acute toxicity estimate Oral - 1,976 mg/kg (Calculation method)

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

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

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Remarks: Mixture causes burns.

Serious eye damage/eye irritation

Remarks: No data available

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Classified based on available data. For more details, see section 2

Carcinogenicity

Evidence of a carcinogenic effect.

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Remarks: No data available

Mixture may cause respiratory irritation.

Mixture may cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Classified based on available data. For more details, see section 2

11.2 Additional Information

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache,

Nausea

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Components Tetrahydrofuran

Acute toxicity

LD50 Oral - Rat - male and female - 1,650 mg/kg

Remarks: (ECHA)

Symptoms: Irritation of mucous membranes

LC50 Inhalation - Rat - male and female - 6 h - > 14.7 mg/l - vapor (US-EPA)

LD50 Dermal - Rat - male and female - > 2,000 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 72 h (Draize Test)

Remarks: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye irritation.

Remarks: (IUCLID)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: negative (OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: S. typhimurium

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster ovary cells

Result: negative

Test Type: Chromosome aberration test in vitro

Test system: Chinese hamster ovary cells

Result: negative

Method: OECD Test Guideline 474

Species: Mouse - male and female - Red blood cells (erythrocytes)

Result: negative

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation. - Central nervous system

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

May cause drowsiness or dizziness.

Acute oral toxicity - Irritation of mucous membranes

Specific target organ toxicity - repeated exposure Aspiration hazard

Classified based on available data. For more details, see section 2

Phenethylmagnesium chloride Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Remarks: No data available

Serious eye damage/eye irritation

Remarks: No data available

Respiratory or skin sensitization

Classified based on available data. For more details, see section 2

Germ cell mutagenicity

Classified based on available data. For more details, see section 2

Carcinogenicity

Classified based on available data. For more details, see section 2

Reproductive toxicity

Classified based on available data. For more details, see section 2

Specific target organ toxicity - single exposure

Classified based on available data. For more details, see section 2

Specific target organ toxicity - repeated exposure

Classified based on available data. For more details, see section 2

Aspiration hazard

Classified based on available data. For more details, see section 2

SECTION 12: Ecological information

Ecotoxicity

Toxicity to fish

Remarks: No data available

Components:

Tetrahydrofuran:

Toxicity to fish

LC50 (Pimephales promelas (fathead minnow)): 2,160 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates

EC50 (Daphnia magna (Water flea)): 3,485 mg/l End point: mortality Exposure time: 48 h Test Type: static test Method: OECD Test Guideline 202

Toxicity to fish (Chronic toxicity)

NOEC (Pimephales promelas (fathead minnow)): 216 mg/l End point: Growth inhibition Exposure time: 33 d Test Type: flow-through test Analytical monitoring: yes Remarks: (ECHA)

Phenethylmagnesium chloride:

Toxicity to fish

Remarks: No data available

Persistence and degradability

Biodegradability

Remarks: No data available

Components:

Tetrahydrofuran:

Biodegradability

aerobic Inoculum: activated sludge Concentration: 2 mg/l Biochemical oxygen demand Result: Not readily biodegradable. Biodegradation: 39 % Exposure time: 28 d Method: OECD Test Guideline 301D

Phenethylmagnesium chloride:

Biodegradability

Remarks: No data available

Bioaccumulative potential

Bioaccumulation

Remarks: No data available

Components:

Tetrahydrofuran:

Partition coefficient: noctanol/water

log Pow: 0.45 (25 °C) Method: OECD Test Guideline 107 Remarks: Bioaccumulation is not expected.

Phenethylmagnesium chloride:

Bioaccumulation

Remarks: No data available

Mobility in soil

Stability in soil

Remarks: No data available

Components:

Phenethylmagnesium chloride:

Stability in soil

Remarks: No data available

Other adverse effects

Components:

Tetrahydrofuran:

Results of PBT and vPvB assessment

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Phenethylmagnesium chloride:

Additional ecological information

No data available

SECTION 13: Disposal considerations

Disposal methods

Waste from residues

Offer surplus and non-recyclable solutions to a licensed disposal company.

SECTION 14: Transport information

International Regulations

IATA-DGR

UN/ID No. : UN 2924

Proper shipping name : Flammable liquid, corrosive, n.o.s.

(Tetrahydrofuran, Phenethylmagnesium chloride)

Class : 3

Subsidiary risk : 8

Packing group : II

Labels : Class 3 - Flammable liquids, Class 8 - Corrosive substances

Packing instruction (cargo aircraft) : 363

Packing instruction (passenger aircraft) : 352

IMDG-Code

UN number : UN 2924

Proper shipping name : FLAMMABLE LIQUID, CORROSIVE, N.O.S.

(Tetrahydrofuran, Phenethylmagnesium chloride)

Class : 3

Subsidiary risk : 8

Packing group : II

Labels : 3 (8)

EmS Code : F-E, S-C

Marine pollutant : no

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

Not applicable for product as supplied.

National regulation GB 6944/12268

UN number : UN 2924

Proper shipping name : FLAMMABLE LIQUID, CORROSIVE, N.O.S.

(Tetrahydrofuran, Phenethylmagnesium chloride)

Class : 3

Subsidiary risk : 8

Packing group : II

Labels : 3 (8)

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15: Regulatory information

National regulatory information

Law on the Prevention and Control of Occupational Diseases

Regulations on Safety Management of Hazardous Chemicals

Catalogue of Hazardous Chemicals Identification of Major Hazard Installations for Hazardous Chemicals (GB 18218)

Listed

No. / Code Chemical name / Category Threshold quantity

W5.3 Flammable liquids 1,000 t

Hazardous Chemicals for Priority Management

Listed under SAWS

Regulation of Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

China Severely Restricted Toxic Chemicals for Import and Export

Not applicable

SECTION 16: Other information

Full text of other abbreviations

ACGIH

USA. ACGIH Threshold Limit Values (TLV)

ACGIH BEI

ACGIH - Biological Exposure Indices (BEI)

GBZ 2.1-2007

Occupational exposure limits for hazardous agents in the workplace - Chemical hazardous agents.

ACGIH / TWA

8-hour, time-weighted average

ACGIH / STEL

Short-term exposure limit

GBZ 2.1-2007 / PC-TWA AIC - Australian Invent Transport by Land of Bra bw - Body weight; **CMR** Standard of the German List (Canada); **ECx** - Conc associated with x% respo Chemical Substances (Jap response; **ERG** - Emerge GLP - Good Laboratory P cer; **IATA** - International Construction and Equipm Half maximal inhibitory c tion; **IECSC** - Inventory o tional Maritime Dangerou Industrial Safety and H Standardization; **KECI** - K tration to 50 % of a test (Median Lethal Dose); **MA** lution from Ships; **n.o.s.** No Observed (Adverse) E fect Level; **NOELR** - No Norm; **NTP** - National Toxi icals; **OECD** - Organizatio fice of Chemical Safety a and Toxic substance; **PIC** stances; **(Q)SAR** - (Quant (EC) No 1907/2006 of th Registration, Evaluation, Accelerating Decompositi Chemical Substance Inve Thailand Existing Chemicala States); **UN** - United Nat Transport of Dangerous **WHMIS** - Workplace Hazar Permissible concentration - time weighted average ry of Industrial Chemicals

ANTT - National Agency for il

ASTM - American Society for the Testing of Materials

- Carcinogen, Mutagen or Reproductive Toxicant

DIN nstitute for Standardisation

DSL - Domestic Substances ntration associated with x% response

ELx - Loading rate se

EmS - Emergency Schedule

ENCS - Existing and New n)

ErCx - Concentration associated with x% growth rate cy Response Guide

GHS - Globally Harmonized System

actice

IARC - International Agency for Research on Cancer Transport Association
 IBC - International Code for the Construction of Ships carrying Dangerous Chemicals in Bulk
 LC50 - Lethal Concentration
 ICAO - International Civil Aviation Organization - Existing Chemical Substances in China
 IMDG - International Maritime Dangerous Goods
 IMO - International Maritime Organization
 ISHL - International Law (Japan)
 ISO - International Organisation for Standardisation
 LC50 - Lethal Concentration
 LD50 - Lethal Dose to 50% of a test population
 POL - International Convention for the Prevention of Pollution from Ships - Not Otherwise Specified
 NCh - Chilean Norm
 NO(A)EC - No Observed Effect Concentration
 NO(A)EL - No Observed (Adverse) Effect Loading Rate
 NOM - Official Mexican Standard
 NZIoC - New Zealand Inventory of Chemicals for Economic Co-operation and Development
 OPPTS - Office of Pollution Prevention and Control
 PBT - Persistent, Bioaccumulative and Toxic - Philippines Inventory of Chemicals and Chemical Substances
 Structure Activity Relationship
 REACH - Regulation of the European Parliament and of the Council concerning the Restriction of Chemicals
 SADT - Self-Heating Temperature
 SDS - Safety Data Sheet
 TCSI - Taiwan Chemical Safety Information
 TDG - Transportation of Dangerous Goods
 TECS - Toxic Substances Inventory
 TSCA - Toxic Substances Control Act (United States)
 UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods
 vPvB - Very Persistent and Very Bioaccumulative
 GHS - Globally Harmonized System of Classification and Labelling of Chemicals
 HMIS - Hazardous Materials Information System

Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.