Chemical Safety Data Sheet MSDS / SDS

Magnesium nitrate SDS

Revision Date:2024-04-25 Revision Number:1

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

Product identifier

Product name: Magnesium nitrate

CAS: 10377-60-3

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.in

Address: 5 vasavi Layout Basaveswara Nilayam Pragathi Nagar Hyderabad, India -500090

Telephone: +91 9550333722

SECTION 2: Hazards identification

Classification of the substance or mixture

Not classified.

GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning

Hazard statement(s)

H272 May intensify fire; oxidizer

Precautionary statement(s)

Prevention

none

Response

none

Storage

none

Disposal

none

Other hazards which do not result in classification

no data available

SECTION 3: Composition/information on ingredients

Substance

Chemical name:	Magnesium nitrate
Common names and synonyms:	Magnesium nitrate
CAS number:	10377-60-3
EC number:	233-826-7

Concentration: 100%

SECTION 4: First aid measures

Description of necessary first-aid measures

If inhaled

Fresh air, rest. Refer for medical attention.

Following skin contact

First rinse with plenty of water for at least 15 minutes, then remove contaminated clothes and rinse again.

Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

Following ingestion

Rinse mouth. Refer for medical attention .

Most important symptoms/effects, acute and delayed

Exposure can cause mild irritation to the mucous membranes. Symptoms may include coughing and shortness of breath. Ingestion of large doses may cause dizziness, abdominal pain, vomiting, bloody diarrhea, weakness, convulsions, and collapse. Contact with skin may cause irritation, redness, and pain. (USCG, 1999)

Indication of immediate medical attention and special treatment needed, if necessary

no data available

SECTION 5: Firefighting measures

Suitable extinguishing media

Use flooding amounts of water in early stages of fire. When large quantities are involved in fire, nitrate may fuse, or melt, in which condition application of water may result in extensive scattering of molten material.

Specific hazards arising from the chemical

Special Hazards of Combustion Products: Toxic fumes of nitrogen oxides are produced when heated to decomposition. Behavior in Fire: Contact with oxidizable substances may cause extremely violent combustion. (USCG, 1999)

Special protective actions for fire-fighters

In case of fire in the surroundings, use appropriate extinguishing media.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Sweep spilled substance into covered plastic containers. Wash away remainder with plenty of water.

Environmental precautions

Sweep spilled substance into covered plastic containers. Wash away remainder with plenty of water.

Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

SECTION 7: Handling and storage

Precautions for safe handling

NO contact with combustible substances or reducing agents. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

Conditions for safe storage, including any incompatibilities

Separated from combustible substances and reducing agents. Dry.Protect against physical damage. Store in cool, dry place; avoid storage on wood floors. Separate from combustible, organic or other readily oxidizable materials. Immediately remove and dispose of any spilled nitrate.

SECTION 8: Exposure controls/personal protection

Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

Appropriate engineering controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Wear safety goggles.

Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Use local exhaust or breathing protection.

Thermal hazards

no data available

SECTION 9: Physical and chemical properties and safety characteristics

Physical state:	Magnesium nitrate is a white crystalline solid. Produces toxic oxides of nitrogen if heated to decomposition. Used in pyrotechnics.
Colour:	White cubic crystals

Odour:	no data available
Melting point/freezing point:	95°C
Boiling point or initial boiling point and boiling range:	83°C at 760 mmHg
Flammability:	Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit/flammability limit:	no data available
Flash point:	-26 °F
Auto-ignition temperature:	no data available
Decomposition temperature:	330°C
pH:	no data available
Kinematic viscosity:	no data available
Solubility:	Very soluble in water
Partition coefficient n-octanol/water:	no data available
Vapour pressure:	1 mm Hg (621 °C)
Density and/or relative density:	0.889 g/mL at 25°C
Relative vapour density:	no data available
Particle characteristics:	no data available

SECTION 10: Stability and reactivity

Reactivity

The substance is a strong oxidant. It reacts with combustible and reducing materials. This generates fire and explosion hazard.

Chemical stability

no data available

Possibility of hazardous reactions

Oxidizing material. In contact with easily oxidizable substances it may react rapidly enough to cause ignition, violent combustion... Increases the flammability of any combustible substance.Mixtures of MAGNESIUM NITRATE with alkyl esters may explode owing to the formation of alkyl nitrates; mixtures with phosphorus, tin(II) chloride, or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. Noncombustible but will accelerate the burning of combustible materials. If large quantities are involved in a fire or the combustible material is finely divided an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Magnesium nitrate has been reported to undergo spontaneous decomposition in dimethylformamide [Bretherick 5th ed., 1995]. It tends to behave as a strong oxidizer.

Conditions to avoid

no data available

Incompatible materials

Dimethyl formamide and magnesium nitrate/ undergoes spontaneous decomp.

Hazardous decomposition products

When heated to decomp ... emits toxic fumes of /nitrogen oxides/.

SECTION 11: Toxicological information

Acute toxicity

Oral: no data available

Inhalation: no data available

Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

May cause mechanical irritation to the eyes and respiratory tract. Ingestion could cause effects on the blood. This may result in the formation of methaemoglobin. The effects may be delayed. Medical observation is indicated.

STOT-repeated exposure

no data available

Aspiration hazard

A nuisance-causing concentration of airborne particles can be reached quickly when dispersed.

SECTION 12: Ecological information

Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

no data available

SECTION 13: Disposal considerations

Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

SECTION 14: Transport information

UN Number

ADR/RID: UN1474 (For reference only, please check.)
IMDG: UN1474 (For reference only, please check.)
IATA: UN1474 (For reference only, please check.)

UN Proper Shipping Name

ADR/RID: MAGNESIUM NITRATE (For reference only, please check.)
IMDG: MAGNESIUM NITRATE (For reference only, please check.)
IATA: MAGNESIUM NITRATE (For reference only, please check.)

Transport hazard class(es)

ADR/RID: 5.1 (For reference only, please check.)
IMDG: 5.1 (For reference only, please check.)
IATA: 5.1 (For reference only, please check.)

Packing group, if applicable

ADR/RID: III (For reference only, please check.)
IMDG: III (For reference only, please check.)
IATA: III (For reference only, please check.)

Environmental hazards

ADR/RID: No
IMDG: No
IATA: No

Special precautions for user

no data available

Transport in bulk according to IMO instruments

no data available

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

European Inventory of Existing Commercial Chemical Substances (EINECS)

Listed.

EC Inventory

Listed.

United States Toxic Substances Control Act (TSCA) Inventory

Listed.

China Catalog of Hazardous chemicals 2015

Listed.

New Zealand Inventory of Chemicals (NZIoC)

Listed.

(PICCS)

Listed.

Vietnam National Chemical Inventory

Listed.

IECSC)

Listed.

Korea Existing Chemicals List (KECL)

Listed.

SECTION 16: Other information

Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

References

IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home

HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm

IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en

CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple

ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg

Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

ECHA - European Chemicals Agency, website: https://echa.europa.eu/

Other Information

Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available. Rinse contaminated clothing with plenty of water because of fire hazard. The recommendations on this Card also apply to Magnesium nitrate hexahydrate (CAS 13446-18-9) which is available commercially.

properties of the product. We as supplier shall not be held liable for any