Issue date: 7/17/2003
Revision date: 8/7/2024

Safety Data Sheet

1. Chemical product and company identification

Product name : Magnesium nitrate hexahydrate

Company information

Name of manufacturer : KANTO CHEMICAL CO., INC.
Address : 2-1, Nihonbashi, Muromachi 2-Chome, Chuo-Ku, Tokyo, 103-0022, JP
Name of section : Business Administration Department, Reagent Division
Telephone number : +81-3-6214-1090
Facsimile number : +81-3-3241-1047
Mail address : BC32@kanto.co.jp

Reference No : 25015

Recommended use : For research use only

Restrictions on use : Seek expert judgment when using the product for applications other than those recommended.

2. Hazards identification

GHS classification

Health hazards	Specific target organ toxicity (single exposure)	Category 1 (blood)
	Specific target organ toxicity (repeated exposure)	Category 1 (blood)

Hazard pictograms



Signal word : Danger

Hazard statements : Causes damage to organs (blood)
Causes damage to organs (blood) through prolonged or repeated exposure

Precautionary statements

Prevention : Do not breathe dust.
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.

Response : IF exposed or concerned: Call a POISON CENTER or doctor.
Get medical advice/attention if you feel unwell.

Storage : Store locked up.

Disposal : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

3. Composition/information on ingredients

Distinction of substance or mixture : Substance

Chemical name	Concentration (%)	Formula	TSCA	EC-No.	CAS RN
Magnesium nitrate hexahydrate	≥ 98	Mg(NO3)2・6H2O	Listed	233-826-7	13446-18-9

4. First aid measures

First aid measures

First-aid measures after inhalation : Remove the victim to fresh air, and make him blow his nose and gargle.

First-aid measures after skin contact : Wash the affected areas under running water.

First-aid measures after eye contact : Wash the affected areas under running water.

First-aid measures after ingestion : Give the victim water immediately.
Call a physician immediately.

Personal Protection in First Aid and Measures : Rescuers should wear proper protective equipment like rubber gloves, goggles.

5. Fire fighting measures

Suitable extinguishing media : This product is noncombustible.

Unsuitable extinguishing media : None

Fire hazard : Contact with combustible material may cause fire.

Firefighting instructions : Move containers from fire area if it can be done without risk, if not possible, apply water from a safe distance to cool and protect surrounding area.

Personal protection (Emergency response) : Firefighters should wear protective equipment.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Wear proper protective equipment and avoid contact with skin and inhalation of dust. Conduct operations from upwind and evacuate people downwind.

Environmental precautions

Environmental precautions : Attention should be given to avoid discharge of spilled product into rivers and resulting environmental damage. When diluting spill with large amounts of water, discharge of untreated wastewater into the environment must be avoided.

Methods and Equipment for Containment and Cleaning up

For containment : Sweep up in a chemical waste container. Flush contaminated area with copious amounts of water.

Prevention Measures for Secondary Accidents : Do not allow contact with organic substances or combustible substances.

7. Handling and storage

Handling

Technical measures : Wear appropriate protective equipment to avoid contact with skin or inhalation of dust.

Precautions for safe handling	:	Avoid formation of dust and aerosols. The substance is an oxdizer. Avoid contact with organic substances.

Storage

Storage conditions	:	As the chemical is deliquescent, keep the bottle tightly closed and store in a cool place. Keep away from combustible matrials.
Material used in packaging/containers	:	Glass, polyethylene, polypropylene.

8. Exposure controls / Personal protection equipment

ACGIH TWA	Not established

Appropriate engineering controls	:	Install a local ventilation system in case of dusty condition.

Protective equipment

Respiratory protection	:	Dust mask
Hand protection	:	Impervious protective gloves
Eye protection	:	Safety goggles
Skin and body protection	:	Protective clothing, protective boots

9. Physical and chemical properties

Physical state	:	Solid
Color	:	Colorless.
Odor	:	Odorless
pH	:	5.0 - 7.0 (50 g/L, 25℃)
Melting point	:	95 ° C
Freezing point	:	No data available
Boiling point	:	No data available
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability	:	Non flammable.
Vapor pressure	:	No data available
Relative density	:	No data available
Density	:	1.64 g/cm^3
Relative gas density	:	No data available
Solubility	:	Organic solvents: Soluble in ethanol, methanol. Water: 42.9 g/100mL (25℃) (as anhydrous)
Partition coefficient n-octanol/water (log Pow)	:	No data available
Explosive limits (vol %)	:	No data available
Viscosity, kinematic	:	No data available
Particle characteristics	:	No data available

10. Stability and reactivity

Reactivity	:	Has oxidative properties.
Chemical stability	:	It becomes a basic salt at temperatures above 90° C and produces magnesium oxide at temperatures above 400° C. Deliquescent.
Possibility of hazardous reactions	:	May ignite or explode when in contact with flammable or reducing substances.
Conditions to avoid	:	Light, heat, moisture.
Incompatible materials	:	Combustible materials, reducing substances.
Hazardous decomposition products	:	Nitrogen oxides.

11. Toxicological information

Acute toxicity (oral)	:	No classification rat LD50=5440 mg/kg
Acute toxicity (dermal)	:	Classification not possible
Acute toxicity (inhalation)	:	No classification (gas) No classification (vapor) Classification not possible (dust, mist)
Skin corrosion/irritation	:	Classification not possible
Serious eye damage/irritation	:	Classification not possible
Respiratory sensitization	:	Classification not possible
Skin sensitization	:	Classification not possible
Germ cell mutagenicity	:	Classification not possible
Carcinogenicity	:	Classification not possible Besides, when nitrates and nitrites are administered in combination with a compound having an amine or amide group, nitrosamination occurs in the stomach to form nitrosamines or nitrosamides, and there is sufficient evidence for their carcinogenicity in experimental animals, but IARC has concluded that evidence for the carcinogenicity of nitrates or nitrites administered alone in experimental animals is inadequate or limited.
Reproductive toxicity	:	Classification not possible
STOT-single exposure	:	Causes damage to organs (blood) There are no reports on this substance itself in humans, but there is a report as general water-soluble nitrates that 15 soldiers who consumed sodium nitrate mistakenly for table salt, showed methemoglobinemia, 13 who consumed about 15 g died and 2 who consumed 5 g survived. Therefore, this substance was classified in category 1 (blood) because a single oral exposure to this substance poses the risk of methemoglobinemia in humans.

STOT-repeated exposure	:	Causes damage to organs (blood) through prolonged or repeated exposure There is no information about this substance. However, it is described that as the human health concern for water-soluble nitrate intake, there is infantile methaemoglobinaemia attributed to nitrites formed by enteric microbial reduction of nitrates contained in food and water, and that neonates have an incompletely developed system for methaemoglobin reduction and their risk are thus high. In addition, there are the following descriptions: Three patients developed cyanosis due to methaemoglobinaemia after administration of ammonium nitrate at 10 g/day for 4-5 days as a diuretic. Of 268 patients who were given ammonium nitrate of 2-9 g/day to prevent renal calculi, methaemoglobinaemia was reported in only two cases, one of which was the case of genetic defects of methaemoglobin reductase. Therefore, this substance was classified in category 1 (blood) because oral exposure to this substance has the risk of causing methaemoglobinaemia in humans, especially in neonates.
Aspiration hazard	:	Classification not possible

12. Ecological information

Ecotoxicity

Aquatic acute	:	Classification not possible
Aquatic chronic	:	Classification not possible

Persistence and degradability

No additional information available

Bioaccumulative potential

No additional information available

Mobility in soil

No additional information available

Hazardous to the ozone layer

Ozone	:	Classification not possible

13. Disposal considerations

Ecological waste information	:	Dilute with copious water and adjust the pH to neutral, then flush in drains. Insoluble substances are buried in a landfill site approved for the disposal of chemical and hazardous wastes. Or entrust approved waste disposal companies with the disposal.
Contaminated container and packaging	:	In case of disposal of empty bottles, dispose bottles after removing the content thoroughly.

14. Transport information

International Regulations

Transport by sea(IMDG)

UN-No. (IMDG)	:	Not applicable
Proper Shipping Name (IMDG)	:	Not applicable
Packing group (IMDG)	:	Not applicable

Transport hazard class(es) (IMDG)	:	Not applicable

Air transport(IATA)

UN-No. (IATA)	:	Not applicable
Proper Shipping Name (IATA)	:	Not applicable
Packing group (IATA)	:	Not applicable
Transport hazard class(es) (IATA)	:	Not applicable
Marine pollutant	:	Not applicable

15. Regulatory information

Regulatory information with regard to this substance in your country or region should be examined by your own responsibility.

16. Other information

Data sources : NITE Chemical Risk Information Platform (NITE-CHRIP), National Institute of Technology and Evaluation.
Encyclopaedia Chimica, Kyoritsu Shuppan Co, Ltd. (1963) .
ICSC Card (2009) .

The information contained herein is based on several references and the present state of our knowledge. However the SDS does not always cover all information about the product, handle the product carefully.The information is intended to ordinary usage, in case of particular handlings, conduct appropriate safety measurements.The information herein is only provision of information, and it does not represent a guarantee the properties of the product.The Safety Data Sheet(SDS) is prepared based on JIS Z7253.