

Isopropyl magnesium

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SIGMA-ALDRICH

Material Safety Data Sheet
Date Printed: 10/09/2004
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Version: 1.40

Section 1 - Product and Company Information

Product Name: Isopropylmagnesium chloride, 2.0M solution in diethyl ether
Product Number: 224383
Brand: Aldrich Chemical
Company: Sigma-Aldrich
Street Address: 3050 Spruce Street
City, State, Zip, Country: SAINT LOUIS, MO 63103 US
Technical Phone: 314 771 5765
Fax: 800 325 5052
Emergency Phone: 414 273 3850 Ext. 5996

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
ISOPROPYLMAGNESIUM CHLORIDE 2.0 M SOLUTION	None	No		603-022-00-4

Ingredient Name	CAS #	Percent	SARA 313
DIETHYL ETHER, INHIBITOR FREE	60-29-7	80.000 %	
ISOPROPYLMAGNESIUM CHLORIDE	1068-55-9	20.000 %	No

Formula: C₃H₇ClMg
Synonyms:

Section 3 - Hazards Identification

Emergency Overview
Flammable (USA) Extremely Flammable (EU). Toxic (USA) Harmful (EU).
Extremely flammable. May form explosive peroxides. Reacts violently with water. Contact with water liberates extremely flammable gases. Harmful if swallowed. Causes burns. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.
Target organ(s): Central nervous system, Kidneys.

HMIS Rating
Health: 3+ Flammability: 4 Reactivity: 3 Special Hazard(s): Water reactive

NFPA Rating
Health: 3 Flammability: 4 Reactivity: 3 Special Hazard(s): Water reactive

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure
In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

Flammable Hazards: Yes Peroxide Former: Yes

Explosion Hazards
Vapor may travel considerable distance to source of ignition and flash back.
Container explosion may occur under fire conditions.

Autoignition Temp: N/A Flammability: Yes

Extinguishing Media
Suitable
Carbon dioxide, dry chemical powder, or appropriate foam

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Flammable liquid. Enters toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill
Evacuate area. Shut off all sources of ignition. Use nonsparking tools.

Procedure(s) of Personal Precaution(s)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up
Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport out doors. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe vapor. Do not get in eyes, on skin or clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Keep away from heat, sparks, and open flame.

Special Requirements

Handle and store under inert gas.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

Personal Protective Equipment

Respiratory

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

General Hygiene Measures

Remove and wash contaminated clothing promptly. Wash thoroughly after handling.

Section 9 - Physical / Chemical Properties

Appearance

Physical State

Liquid

Molecular Weight: 102.8 AMU

pH N/A
BP/ BP Range N/A
MP/ MP Range N/A
Freezing Point N/A
Vapor Pressure N/A
Vapor Density N/A
Saturated Vapor Conc. N/A
SG Density N/A
Bulk Density N/A
Odor Threshold N/A
Volatiles % N/A
VOC Content N/A
Water Content N/A
Solvent Content N/A
Evaporation Rate N/A
Viscosity N/A
Partition Coefficient N/A
Decomposition Temp. N/A
Flash Point °F N/A
Flash Point °C N/A
Explosion Limits N/A

Flammability N/A
Autodignition Temp N/A

Solubility N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability

Stable

Stable

Conditions of Instability

May form peroxides of unknown stability.

Conditions to Avoid

Sensitive to light. Sensitive to air. Sensitive to heat.

Materials to Avoid

Oxidizing agents, Strong acids, Alcohols, Acids, Reacts violently with water.

Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide, Magnesium oxide, Hydrogen chloride gas.

Hazardous Polymerization

Hazardous Polymerization

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

Causes burns.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes burns.

Inhalation

May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

Harmful if swallowed.

Target Organ(s) or System(s)

Central nervous system, Kidneys, Liver, GI. System, Skeletal muscle.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Contact with eyes can cause redness, tearing, and blurred vision. Prolonged or repeated contact with skin can cause defatting and dermatitis. Exposure can cause: Dizziness, Drowsiness.

RTECS Number: N/A

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.

Observe all federal, state, and local environmental regulations.

Handwritten red text: "No data available"

Handwritten red mark: "CC"

Section 14 - Transport Information

DOT

Proper Shipping Name: Organometallic compound [or] Compound solution [or] Compound dispersion, water-reactive, flammable, n.o.s.
UN#: 3207
Class: 4.3
Packing Group: Packing Group I
Hazard Label: Dangerous when wet,
Hazard Label: Flammable liquid
PIH: Not PIH

IATA

Proper Shipping Name: Organometallic compound solution, water-reactive, flammable, n.o.s.
IATA UN Number: 3207
Hazard Class: 4.3
Packing Group: I
Not Allowed - Aircraft: Cargo aircraft only. Not permitted on passenger aircraft.

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: F+ Xn
Indication of Danger
Extremely flammable. Harmful.
Risk Statements R 12 R 19 R 22 R 66 R 67
Extremely flammable. May form explosive peroxides. Harmful if swallowed. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.
Safety Statements S 9 S 16 S 29 S 33
Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. Do not empty into drains. Take precautionary measures against static discharges.

US Classification and Label Text

Indication of Danger
Flammable (USA) Extremely flammable (EU), Toxic (USA) Harmful (EU).
Risk Statements
Extremely flammable. May form explosive peroxides. Reacts violently with water. Contact with water liberates extremely flammable gases. Harmful if swallowed. Causes burns. Repeated exposure may cause skin dryness or cracking. Vapors may cause drowsiness and dizziness.
Safety Statements
Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. Do not empty into drains. Take precautionary measures against static discharges.
US Statements
Target organ(s): Central nervous system Kidneys.

United States Regulatory Information

SARA Listed: No

Canada Regulatory Information

WHMIS Classification
This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR
DSL: No
NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate

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