

## Section 1 – Chemical Product and Company Identification

MSDS Name: Isopropylmagnesium Bromide in Diethyl Ether

Chemical Family: Grignard reagent

Use of the substance: Chemical intermediate

Company: Optima Chemicals Group, LLC  
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## Section 2 – Hazards Identification

Hazards:

Water reactive, flammable, very harmful by ingestion.

Can affect the central nervous system, kidney, liver, gastrointestinal tract, and skeletal muscles.

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

May be harmful if absorbed through skin. Causes skin burns.

Causes eye burns

NFPA Rating: Health: 3 Flammability: 3 Reactivity: 2 Special: W

## Section 3 – Composition, Information on Ingredients

<u>CAS #</u>	<u>EC#</u>	<u>Chemical Name</u>	<u>Wt.%</u>
920-39-8	213-056-8	Isopropylmagnesium Bromide	19-21
60-29-7	200-467-2	Diethyl ether	79-81

#### **Section 4 – First Aid Measures**

Eyes: Flush eyes with plenty of water for at least 15 minutes, lifting upper and lower lids. Seek medical attention.

Skin: Quickly wipe off as much as possible, then immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Thoroughly wash with soap and water, and seek medical attention.

Ingestion: Quickly wipe material from the mouth, and rinse mouth out with plenty of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.

Inhalation: Remove from exposure, to fresh air immediately. If not breathing give artificial respiration, and seek medical attention.

#### **Section 5 – Fire Fighting Measures**

Flammable Limits: Upper: 36% Lower: 1.7%

General Hazard: Flammable liquid. Reacts with water.

Fire Extinguishing Agents Recommended: Do not use water or CO<sub>2</sub>. Use dry chemical.

Special Fire fighting Procedures: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Sensitivity to Static Discharge: Yes

Sensitivity to Impact: None

#### **Section 6 – Accidental Release Measures**

Remove all sources of ignition. Do not use water in the initial phases of clean up. Contain spill with absorbent. Transfer to approved transport container and clean up spillage with an absorbent. Dispose of waste according to local and Federal laws and regulations. Before cleanup measures begin, review the entire MSDS with particular attention to Section 3, and Section 8.

#### **Section 7 - Handling and Storage**

Handling: Handle and store under inert gas. Do not get in eyes, on skin or clothing. Do not breathe vapors or mist.

Storage: Store in cool, dry place. Store in tightly closed container. Keep away from sources of ignition, and water,

### **Section 8 – Exposure Controls, Personal Protection**

Exposure Limits (Diethyl ether): PEL (OSHA) – 400 ppm, STEL (OSHA) – 500 ppm, TWA (ACGIH) – 400 ppm, STEL (ACGIH) – 500 ppm.

Engineering Controls: Use in closed system under argon or nitrogen. If personal contact can occur, use local exhaust ventilation (explosion proof), to keep airborne concentrations below exposure limits.

Eyes and Face: Wear splash goggles with a face shield.

Skin: Wear rubber gloves and rubber protective clothing.

Respiratory: When engineering controls are not adequate, wear a NIOSH/MSHA respirator approved for protection against organic vapors and mists.

Work Hygienic Practices: Quick-drench eyewash and safety shower.

### **Section 9 – Physical and Chemical Properties**

Appearance and Odor: Colorless to light brown/gray liquid, with slight sweet odor.

Melting Point: Not available

Boiling Point: 34.5 degrees C (Diethyl ether)

Flash Point: -45 degrees C (Diethyl ether)

Vapor Pressure: Not available

Vapor Density: 2.56

pH: Not applicable

Specific Gravity: 0.834 g/mL @25 degrees C

Water Solubility: Reacts violently with water

Flammable Limits: Upper – 36%, Lower – 1.7%

Molecular Weight: 147.30

Autoignition Temperature: Not available

Decomposition Temperature: Not available

Explosive Properties: Not explosive

Oxidizing Properties: Not an oxidizer

### **Section 10 – Stability and Reactivity**

Stability: Stable under recommended storage conditions.

Incompatibility: Heat, fire, air, water, acids, oxidizing chemicals, and CO<sub>2</sub>.

Hazardous Polymerization: Does not polymerize

Hazardous Decomposition Products: None

Conditions to Avoid: Water, heat, air, sparks, open flame.

### **Section 11 – Toxicological Information**

No data is available for the product. All data is based upon diethyl ether.

Dermal LD50 = >20mL/kg Rabbit, Oral LD50 = 1215 gm/kg Rat, Inhalation LC50 = 31000 ppm/30M Mouse. (RTECS).

Carcinogenicity: No listed by IARC, NTP, OSHA, ACGIH, or EH40.

Mutagenicity: No data available for the product.

Reproductive Toxicity: No data available for the product.

### **Section 12 – Ecological Information**

Ecotoxicological Information:

Environmental toxicity testing of the product has not been conducted. All data is based on diethyl ether.

96 hr. LC50 = 2600 mg/l (fathead minnow) 48 hr. EC50 = 2800 mg/l (golden orfe).

Chemical Fate Information:

No data available for the product.

### **Section 13 – Disposal Considerations**

Dispose of in accordance with federal, state, and local regulations.

### **Section 14 – Transport Information**

DOT Shipping: Organometallic substance, liquid, water reactive, flammable, N.O.S. (isopropylmagnesium bromide, ether, solution), 4.3 Dangerous when wet (3,flammable), UN3399, PG 1.

Labels: Dangerous when wet, flammable.

Custom Tariff No: 2942.00.0000

Marine Pollutant: No

PIH: Not designated Poison Inhalation Hazard by USDOT.

### **Section 15 – Regulatory Information**

Section 311 Hazard Category (40CFR 370): Reactive, fire hazard, acute health hazard.

Section 313 Reportable Ingredients (40 CFR 372): No reporting requirements.

Section 302 Extremely Hazardous Substances (40 CFR 355): Not listed.

CERCLA Hazardous Substance (40 CFR 302.4): Diethyl ether has a reportable quantity of 100 pounds.

TSCA Sec 12B Export Notification: Diethyl ether is subject to these requirements.

TSCA Inventory Status (40 CFR 710): Listed

Canada:

WHMIS: Hazard Classification – Class B, Division 2 (Flammable liquid), Class B, Division 6 (Reactive Flammable Materials/Flammable gas on contact with water), Ingredient Disclosure List: Listed.

### **Section 16 – Additional Information**

Creation Date: 8/25/2009 Revised: 12/11/2009

This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200 and Canada's Workplace Hazardous Materials Information System (WHMIS) requirements.

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