



# MATERIAL SAFETY DATA SHEET

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BIS(CYCLOPENTADIENYL)MAGNESIUM

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY.

### Product Name

Bis(cyclopentadienyl)magnesium, Magnesocene

### Formula

$(C_5H_5)_2Mg$

### Company Identification

See footer.

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

### Substance/Preparation

Bis(cyclopentadienyl)magnesium

### Components/Impurities

None

### EC No.

Not available.

### CAS No.

1284-72-6

## 3. HAZARDS IDENTIFICATION

Pyrophoric solid. Decomposes violently in water. Skin contact can cause severe burns. Fumes may cause skin and eye irritation. Avoid inhalation of fumes.

## 4. FIRST AID MEASURES

Prompt medical attention is required in all cases of exposure to Bis(cyclopentadienyl)magnesium and its by-products. Rescue personnel should be equipped with appropriate protective equipment (e.g. Self-contained breathing apparatus) to prevent unnecessary exposure and must be aware of the pyrophoric nature of Bis(cyclopentadienyl)magnesium.

### Skin

Contact may cause severe burns. Fumes may cause irritation. Immediately flush affected areas with large quantities of water. Remove affected clothing as rapidly as possible only if not stuck to skin.

### Eyes

Contact may cause severe burns. Fumes may cause irritation. Persons with potential exposure to Bis(cyclopentadienyl)magnesium should not wear contact lenses. Flush contaminated eyes with large quantities of water for at least 15 minutes. Hold eyelids open to ensure complete flushing.

### Inhalation

May cause irritation. Move exposed personnel to an uncontaminated area quickly using self-contained breathing apparatus. If breathing is difficult, give oxygen. If breathing has stopped, apply artificial respiration. Medical assistance should be sought immediately. Keep victim warm and quiet.

## 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

Always use dry powder, soda ash or lime. Never use water, foam or halogenated compounds to fight fires involving organometallic materials. Without risk, stop flow of this compound to the fire. Without risk, and if safe to do so, move container(s) away from fire area.

### Exposure Hazards

In a controlled fire any unreacted Bis(cyclopentadienyl)magnesium may re-ignite when contact with air or water is renewed.

### Special Protective Equipment for Fire-Fighters

Self-contained breathing apparatus, face shield and safety goggles, safety shoes and fire resistant gloves.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions

Evacuate area. Use appropriate protective equipment. Purge equipment with inert gas before attempting repairs. Ensure adequate ventilation. If leak is in container call one of the emergency numbers as appropriate (See footer).

### Environmental Precautions

Try to stop release, if safe to do so. For fire-fighting measures see Section 5.

### Clean up methods

Contact Epichem for specific advice.

## 7. HANDLING AND STORAGE

### Handling

Valve outlet seals must remain in place unless container is secured and valve outlet piped to use point. Use a check valve or trap to prevent hazardous back flow into the container. Any equipment used for Bis(cyclopentadienyl)magnesium service must be thoroughly cleaned and prepared to eliminate contamination and must be maintained in a leak-free state. All air and moisture in the system must be eliminated before use.

### Storage

Protect containers from physical damage. Do not allow temperatures to exceed (125F)51C. Store away from flammable material.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Controls

#### OSHA or ACGIH:

TLV(TWA)= 10 mg/m<sup>3</sup> (magnesium oxide fume)

PEL(TWA)= 15 mg/m<sup>3</sup> (magnesium oxide fume) (total particulate)

TLV(TWA)= 75 ppm (203 mg/m<sup>3</sup>) (cyclopentadiene)

PEL(TWA)= 75 ppm (200 mg/m<sup>3</sup>) (cyclopentadiene)

OES and MEL: None established.

Ensure adequate ventilation.

### Personal Protection

Self-contained breathing apparatus, rubber gloves, face shield and safety goggles, safety shoes and fire-resistant garments. Safety shower and eyewash.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 150C @ 0.1 mmHg  
Vapour Pressure: Log<sub>10</sub>P(mmHg)@25C=0.04 mmHg  
@60C=0.75 mmHg

Melting Point: (349F) 176C  
Molecular Weight: 154.49 grams  
Solubility in water: Reacts violently.  
Appearance: White solid which is pyrophoric.

## 10. STABILITY AND REACTIVITY

### Conditions to avoid

Reacts pyrophorically in air.

**Note:** Bis(cyclopentadienyl)magnesium is stable indefinitely in an inert atmosphere at room temperature.

### Materials to avoid

Avoid oxidizers, water and air

### Hazardous Decomposition Products

Cyclopentadiene, Magnesium oxides, CO, CO<sub>2</sub>

## 11. TOXICOLOGICAL INFORMATION

Magnesium compounds are generally of low toxicity. However, Cyclopentadiene is a severe irritant to human tissue and is toxic.

Bis(cyclopentadienyl)magnesium is not listed in the IARC, NTP, or OSHA Subpart Z as a carcinogen or potential carcinogen.

This product is manufactured/distributed in compliance with all provisions of the Toxic Substance Control Act, 15 U.S.C.

## 12. ECOLOGICAL INFORMATION

This product does not contain any Class I or Class II ozone depleting chemicals.

## 13. DISPOSAL CONSIDERATIONS

Regional and National regulations should be followed during waste disposal. Contact an Epichem representative for disposal of container and any unused quantities.

## 14. TRANSPORT INFORMATION

UN No: 2846  
CLASS: 4.2  
PG I  
ECCN#: 3C003  
IMDG Code: 4255  
Shipping Name: Pyrophoric solid, organic, n.o.s.  
(Bis(cyclopentadienyl)Magnesium)

## 15. REGULATORY INFORMATION

### Classification

Highly Flammable, Corrosive

### Risk and Safety Phrases

R14: Reacts violently with water.

R17: Spontaneously flammable in air.

R34: Causes burns.

S16: Keep away from sources of ignition – No smoking.

S43a: In case of fire use dry powder or lime - Never use water.

S45: In case of accident or if you feel unwell seek medical advice immediately. (Show label where possible)

## 16. OTHER INFORMATION

Ensure operators understand the pyrophoric nature of the product. Before using this product, it is recommended that a risk assessment and safety study be carried out. Further information on the use of this product can be obtained from the Technical Product Manager at the nearest Epichem facility.

*SAFETY NOTICE: In Order to provide our customers with the highest quality material and maintain our high standards of safety, the surface temperature of the bubbler will be monitored during the transportation of our products. We would like to monitor the surface temperature of the bubbler using a tempilabel. Tempilabel is a temperature-monitoring strip ranging from 120F to 150F (49C to 66C) which will indicate the temperature during shipment. The strip will turn black at one of the four ratings shown if the temperature is reached (normally a silver centre). If the temperature monitor is changed, please notify an Epichem representative immediately and we will assist you in the proper measures to be taken. We ask for your co-operation in our efforts of quality assurance and safety. If you have any questions or comments, please contact an Epichem representative. We thank you for your co-operation. Your assistance is greatly appreciated.*

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### 24 Hour Emergency Contact Numbers:

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