



# SAFETY DATA SHEET

## Section 1. Identification

<b>Product Name:</b>	<a href="#">Cyclopentadienylmanganese(I) tricarbonyl</a>
<b>Product Type:</b>	Solid
<b>CAS Number:</b>	12079-65-1
<b>Product Number:</b>	MN9651
<b>Recommended Use:</b>	Laboratory chemicals, synthesis of substances.
<b>Product Manufacturer:</b>	Ereztech LLC 11555 Medlock Bridge Road, Suite 100 Johns Creek, GA 30097
<b>Product Information:</b>	(888) 658-1221
<b><u>In Case of an Emergency:</u></b>	CHEMTREC: 1-800-424-9300 (USA); +1 703-527-3887 (International); CCN836180 *** Contact manufacturer for all non-emergency calls.

## Section 2. Hazards Identification

### Emergency Overview

<b>Appearance/Odor:</b>	Yellow crystalline powder, acrid, camphor-like odor.
<b>Classification:</b>	ACUTE TOXICITY, ORAL - Category 3, H300 SKIN CORROSION/IRRITATION - Category 2, H315 ACUTE TOXICITY, INHALATION - Category 3, H330 SPECIFIC TARGET ORGAN TOXICITY, SINGLE EXPOSURE – Category 1, H370 SPECIFIC TARGET ORGAN TOXICITY, REPEATED EXPOSURE – Category 1, H372

### GHS Label Elements

#### Hazard Pictograms:



<b>Signal Word:</b>	DANGER
<b>Hazard Statements:</b>	H300: Fatal if swallowed. H315: Causes skin irritation. H330: Fatal if inhaled.

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### Section 2. Hazards Identification

<b>Hazard Statements (cont.):</b>	H370: Causes damage to organs (lungs, central nervous system (CNS)) H372: Causes damage to organs (lungs, central nervous system (CNS), kidneys) through prolonged or repeated exposure.
<b><u>Precautionary Statements</u></b>	
<b>Prevention:</b>	P260: Do not breathe dusts/aerosols/fumes/gases. P264: Wash hands and exposed skin thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or with adequate ventilation. P280: Wear protective gloves. P284: In case of inadequate ventilation, wear respiratory protection.
<b>Response:</b>	P301 + P316: IF SWALLOWED: Get emergency medical help immediately. P302 + P352: IF ON SKIN: Wash with plenty of soap and water. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P308 + P316: IF exposed or concerned: Get emergency medical help immediately. P316: Get emergency medical help immediately. P319: Get medical help if you feel unwell. P330: Rinse mouth. P332 + P317: If skin irritation occurs: Get medical help. P362 + P364: Take off contaminated clothing and wash it before reuse.
<b><u>Storage:</u></b>	P403 + P233: Store in a well ventilated place. Keep container tightly closed. P405: Store locked up.
<b>Disposal:</b>	P501: Dispose of contents/container in accordance with federal, state and local regulations.
<b>General:</b>	None.
<b>OSHA/HCS Status:</b>	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Hazards Not Otherwise Classified [HNOC]:</b>	None identified.

### Section 3. Composition/Information on Ingredients

<b>Synonyms</b>	: Tricarbonyl(eta-cyclopentadienyl)manganese; cymantrene; MnCp(CO) <sub>3</sub> .
<b>Formula</b>	: C <sub>8</sub> H <sub>5</sub> MnO <sub>3</sub>
<b>Molecular Weight</b>	: 204.06 g/mol.

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### Section 3. Composition/Information on Ingredients

Ingredient Name	%	CAS Number
<a href="#">Cyclopentadienylmanganese(I) tricarbonyl</a>	≥ 99	12079-65-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

### Section 4. First Aid Measures

#### Description of Necessary First Aid Measures

- General Advice:** Move out of dangerous area. Get immediate emergency medical help. Show this safety data sheet to the doctor in attendance.
- Eye Contact:** Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue rinsing for at least 20 minutes. Get immediate emergency medical help.
- Skin Contact:** Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear impervious gloves. Continue to rinse for at least 20 minutes. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse. Dispose of leather shoes which have been contaminated. Get immediate emergency medical help.
- Inhalation:** Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical help immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get immediate emergency medical help.
- Ingestion:** Get immediate emergency medical help. Rinse mouth. Do NOT induce vomiting. Remove dentures if any. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical help immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In exceptional cases where medical care will not be available within one hour of ingestion, induce vomiting (only in persons who are fully awake and fully conscious) then administer activated charcoal (20 – 40 g in 10% slurry) and get medical help as quickly as possible.

#### Most Important Symptoms/Effects, Acute And Delayed Potential Acute Health Effects

- Eye Contact:** May cause eye irritation. Symptoms may include watering, redness, pain, swelling of the eyelids, inability to keep eye open, blurred vision and temporary/permanent loss of vision.

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### Section 4. First Aid Measures

- Inhalation:** Fatal if inhaled. Symptoms may include cough, dizziness, dull headache, weakness, blurred vision, a sense of confusion, shortness of breath, convulsions, pulmonary edema, nausea or vomiting and loss of consciousness.
- Skin Contact:** Product is irritating in contact with skin and may be fatal if absorbed through skin. Symptoms of skin contact may include reddening of skin, a burning or itching sensation, pain, blistering and tissue necrosis. Symptoms of absorption of product through skin will be the same as inhalation of product.
- Ingestion:** Fatal if ingested. Symptoms of ingestion will be the same as inhalation of product.
- Chronic Symptoms:** Chronic exposure to manganese may cause impairment to the central nervous system. Symptoms include sluggishness, sleepiness, muscle weakness, loss of facial muscle control, edema, emotional disturbances, spastic gait and falling. Chronic manganese poisoning may develop after as little as three months of heavy exposure but usually cases develop after one to three years of exposure.

#### Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

- Notes to Physician:** Treat symptomatically.
- Specific Treatments:** No specific treatment.
- Protection of First Responders:** No action taken shall be taken involving any personal risk without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See Toxicological Information (Section 11)

### Section 5. Fire Fighting Measures

- General Hazards:** Product is combustible. When heated, product releases carbon monoxide and other toxic or irritating gases. Product reacts when exposed to air.
- Suitable Extinguishing Media:** Use sand, water spray (fog), dry chemical or carbon dioxide (CO<sub>2</sub>).
- Unsuitable Extinguishing Media:** Do not use water jet.
- Unusual Fire and Explosion Hazards:** In a fire or if heated, a pressure increase will occur and the product container may burst, with the risk of a subsequent release of product. To reduce the possibility of explosion, use a water spray or fog to cool unopened containers.
- Product of Combustion:** Decomposition products may include carbon monoxide, carbon dioxide and manganese oxide fumes. When heated or exposed to fire, product may release irritating and highly toxic gases.

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### Section 5. Fire Fighting Measures

#### Protection of Firefighters:

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Eliminate all local and distant ignition sources. Move containers from fire area if process can be accomplished without risk to firefighters. Avoid the formation and inhalation of dusts, aerosols, vapors and gases.

Fire-fighters should wear appropriate protection equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in a positive pressure mode.

### Section 6. Accidental Release Measures

#### Personal Precautions, Protective Equipment and Emergency Procedures

##### For Non-Emergency Personnel:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid the formation and inhalation of dusts, aerosols, vapors and gases. Provide adequate ventilation. Wear respiratory protection. Put on appropriate personal protective equipment.

##### For Emergency Responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For Non-Emergency Personnel".

##### Environmental Precautions:

Do not allow dispersal of spilled material and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

#### Methods for Containment

##### General:

Eliminate all local and distant ignition sources. Move containers from spill area if safe to do so. Avoid the formation and inhalation of dusts and aerosols. Dispose of collected spillage in accordance with federal, state and local regulations. Contaminated absorbent material may pose the same hazard as the spilled product.

##### Small Spill:

Collect spillage with a dry binding material (e.g. sand, earth, vermiculite or diatomaceous earth) and place in dry, sealed container for disposal.

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### Section 6. Accidental Release Measures

#### Large Spill:

Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with a dry binding material (e.g. sand, earth, vermiculite or diatomaceous earth) and place in dry, sealed container for disposal.

Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

### Section 7. Handling and Storage

#### Precautions:

Product is air/heat sensitive; handle under a dry, inert gas. Nitrogen with less than 5 ppm each of moisture and oxygen is recommended. Avoid formation and inhalation of dusts and aerosols. Keep container tightly sealed. Avoid contact with skin, eyes and clothing. Do not ingest. Avoid prolonged exposure. Ensure adequate ventilation.

#### Protective Measures:

Put on appropriate personal protective equipment (see Section 8). Keep in the original container kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

#### General Occupational Hygiene:

Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

#### Safe Storage Conditions:

Product is air/heat sensitive; store under an inert gas. Nitrogen with less than 5 ppm each of moisture and oxygen is recommended. Store refrigerated at 2 – 8 °C. Store in original container protected from direct sunlight in a dry and well-ventilated area, away from incompatible materials and food and drink. Keep container tightly closed and sealed until ready for use. Store locked up.

### Section 8. Exposure Controls/Personal Protection

#### Introductory Remarks:

These recommendations provide general guidance for handling this product. Because work environments and material handling practices vary, safety procedures should be developed for each intended application. While developing safe handling procedures, do not overlook the need to clean equipment and conduct regular repairs. Waste from these procedures should be handled in accordance with Section 13.

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### Section 8. Exposure Controls/Personal Protection

#### Occupational Exposure Limits

List	Components	CAS-No.	Type	Value
ACGIH	Cyclopentadienylmanganese(I) tricarbonyl	12079-65-1	TLV	0.1 mg/m <sup>3</sup> – skin (Mn metal)
NIOSH	Cyclopentadienylmanganese(I) tricarbonyl	12079-65-1	IDLH	500 mg/m <sup>3</sup> (Mn metal)
			STEL	3 mg/m <sup>3</sup> (Mn metal)
			TWA	0.1 mg/m <sup>3</sup> (Mn metal)
OSHA	Cyclopentadienylmanganese(I) tricarbonyl	12079-65-1	PEL	5 mg/m <sup>3</sup> (Mn metal) Ceiling

#### Engineering Controls:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. Provide an eyewash/shower station.

#### Environmental Exposure Controls:

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

#### Individual Protection Measures

##### Hygiene Measures:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Remove all soiled and contaminated clothing immediately. Contaminated clothing should not be allowed out of the workplace. Do not inhale dusts/fumes/gases. Avoid contact with eyes and skin. Ensure that eyewash stations and safety showers are close to the workstation location.

##### Eye/Face Protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles, faceshield (8-inch minimum). Refer to 29 CFR 1910.133, ANSI Z87.1, or European Standard EN166.

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### Section 8. Exposure Controls/Personal Protection

#### Skin Protection

##### **Hand Protection:**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: Chemical-resistant gloves.

Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. For full contact, wear Neoprene or nitrile rubber gloves.

##### **Other Skin Protection:**

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### **Respiratory Protection:**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Section 9. Physical and Chemical Properties

##### **Physical State:**

Crystalline powder.

##### **Color:**

Yellow to gold to dark orange.

##### **Odor:**

Acrid, camphor-like.

##### **Odor Threshold:**

No data available.

##### **pH:**

No data available.



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### Section 9. Physical and Chemical Properties

<b>Melting Point:</b>	72 °C (171 °F) – decomposes/sublimes.
<b>Boiling Point:</b>	Sublimes.
<b>Flash Point:</b>	No data available.
<b>Auto-ignition temperature:</b>	No data available.
<b>Density:</b>	No data available.
<b>Vapor Pressure:</b>	No data available.
<b>Vapor Density:</b>	No data available.
<b>Water Solubility:</b>	Soluble (70 ppm @ 25 °C).

### Section 10. Stability and Reactivity

<b>Reactivity:</b>	Product is air/heat sensitive.
<b>Chemical Stability:</b>	This product is stable when stored under a dry, inert atmosphere and away from heat. Nitrogen containing less than 5 ppm each moisture and air and a temperature range of 2 – 8 °C is recommended.
<b>Conditions to Avoid:</b>	Exposure to air and extremes of temperature.
<b>Incompatible Materials:</b>	Strong oxidizing agents, air.
<b>Hazardous Decomposition Products:</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Hazardous decomposition products formed under fire conditions: carbon monoxide, carbon dioxide and manganese oxides. Irritating fumes and highly toxic vapors may be generated during exposure to elevated temperatures or open flame. In the event of a fire: see section 5.
<b>Possibility of Hazardous Reactions:</b>	Under normal conditions of storage and use, hazardous reactions will not occur. Hazardous reactions or instability may occur under certain conditions of storage or use.

### Section 11. Toxicological Information

#### Information on Toxicological Effects

##### Acute Toxicity

Component	CAS No	Test	Species	Dose	Exposure
Cyclopentadienylmanganese(I) tricarbonyl	12079-65-1	LD50 Oral	Mouse	150 mg/kg	-
		LC50 Oral	Mouse	22 mg/kg	-

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### Section 11. Toxicological Information

Component	CAS No	Test	Species	Dose	Exposure
Cyclopentadienylmanganese(I) tricarbonyl	12079-65-1	LD <sub>Lo</sub> Inhalation	Rat	120 mg/m <sup>3</sup>	2 hrs.

- Irritation/Corrosion** : Causes skin irritation.
- Sensitization** : No specific data available.
- Germ Cell Mutagenicity** : No specific data available.
- Carcinogenicity**
  - IARC** : No component of this product present at levels greater than 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
  - ACGIH** : No component of this product present at levels greater than 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
  - NTP** : No component of this product present at levels greater than 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
  - OSHA** : No component of this product present at levels greater than 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.
- Reproductive Toxicity** : No specific data available.
- Teratogenicity** : No specific data available.
- Specific Target Organ Toxicity (Single Exposure)** : Causes damage to lungs and central nervous system (CNS).
- Specific Target Organ Toxicity (Repeated Exposure)** : Chronic exposure may result in damage to lungs, kidneys and Central Nervous System disorders.
- Aspiration Hazard** : No specific data available.
- Information on the Likely Routes of Exposure** : Common routes of exposure: inhalation (failure to prevent dust formation), dermal (failure to use skin protection), eye (failure to use safety eyewear). Less common: ingestion (failure to employ recommended hygiene measures (e.g. smoking after handling product without washing hands or using hand protection)).
- Additional Information** : RTECS: OO9720000 - Men exposed to manganese dust show a decrease in fertility. A high incidence of pneumonia has been observed in workers exposed to the dust or fumes of some manganese compounds.

# Cyclopentadienylmanganese(I) tricarbonyl

## Safety Data Sheet

### Section 11. Toxicological Information

#### Additional Information (cont.)

: Chronic manganese poisoning primarily affects the Central Nervous System (CNS). Early symptoms include languor, sleepiness and a weakness in the legs. A stolid, mask-like appearance of the face, emotional disturbances such as uncontrollable laughter and a spastic gait with a tendency to fall in walking have been observed in more advanced cases. Carbonyl compounds are toxic due to decomposition yielding carbon monoxide. Symptoms include asphyxia, headache, mental confusion, dizziness, impairment of vision and hearing, and fainting. High exposures can result in unconsciousness and death due to the inability of hemoglobin to carry oxygen to the tissues.

To the best of our knowledge, the chemical, physical, toxicological and ecological properties of this product have not been thoroughly investigated.

### Section 12. Ecological Information

#### Numerical Measures of Toxicity

: No specific data available.

#### Persistence and Degradability

##### Biodegradability

: No specific data available.

##### Bioaccumulative Potential

: Product has high potential to bioconcentrate and may have some potential to bioaccumulate.

##### Mobility in Soil

: Product is not likely to be mobile in soil due to products low water solubility.

##### Other Adverse Effects

: Product may cause long-term adverse effects in the environment. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

### Section 13. Disposal Considerations

#### Waste Treatment Methods

##### Product

: Dispose of in accordance with local, state, and federal regulations. Refer to 40 CFR 260-299 for complete waste disposal regulations. Consult your local, state, or federal agency before disposing of any chemicals.

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### Section 13. Disposal Considerations

**Contaminated Packaging** : Empty containers retain product residue (dust, vapors and gases) and can be dangerous. Dispose of as unused product.

### Section 14. Transport Information

	<b>DOT</b>	<b>IMDG</b>	<b>IATA</b>
UN Number	UN2811	UN2811	UN2811
UN Proper Shipping Name	Toxic solids, organic, n.o.s. (Tricarbonyl ( $\eta$ -cyclopentadienyl) manganese)	TOXIC SOLIDS, ORGANIC, N.O.S. (Tricarbonyl ( $\eta$ -cyclopentadienyl) manganese)	Toxic solids, organic, n.o.s. (Tricarbonyl ( $\eta$ -cyclopentadienyl) manganese)
Transport Hazard Classes	6.1	6.1	6.1
Packing Group	II	II	II
Environmental Hazards	-	-	-
Additional Information		EMS No: F-A, S-A	

**Special Precautions for User** : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transporting in Bulk According to Annex II of MARPOL 73/78 and the IBC Code** : Not applicable.

### Section 15. Regulatory Information

#### **TSCA (Toxic Substance Control Act):**

This product is listed on the U.S. Toxic Substances Control Act Chemical Inventory (TSCA Inventory).

#### **SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

#### **SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### **SARA 311/312 Hazards**

Acute Health Hazard (Acute Toxicity: Oral, Inhalation, Skin corrosion or irritation; Specific Target Organ Toxicity (single and repeated exposure)).

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## Section 15. Regulatory Information

### Massachusetts Right to Know Components

Cyclopentadienylmanganese(I) tricarbonyl	CAS-No. 12079-65-1	Revision Date 2007-03-01
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### Pennsylvania Right to Know Components

Cyclopentadienylmanganese(I) tricarbonyl	CAS-No. 12079-65-1	Revision Date 2007-03-01
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### New Jersey Right to Know Components

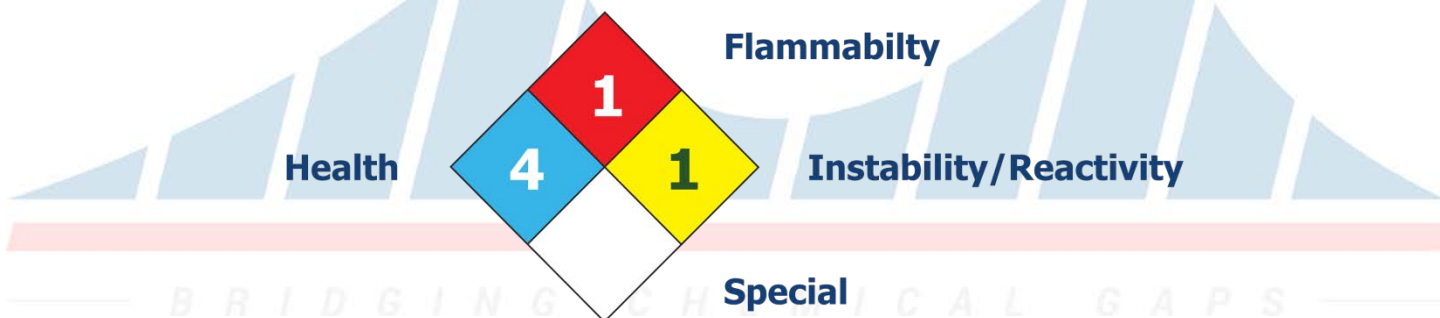
Cyclopentadienylmanganese(I) tricarbonyl	CAS-No. 12079-65-1	Revision Date 2007-03-01
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### California Proposition 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## Section 16. Other Information

### National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

### HMIS Rating

<b>HEALTH</b>	<b>4</b>
<b>FLAMMABILITY</b>	<b>1</b>
<b>PHYSICAL HAZARD</b>	<b>1</b>

# Cyclopentadienylmanganese(I) tricarbonyl

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### Section 16. Other Information

#### History

**Date of Issue/Date of Revision** : 11/14/2023.

**Date of Previous Issue** : 6/10/2020.

**References** : None available.

#### Abbreviations and Acronyms

ACGIH: American Conference of Governmental Industrial Hygienists.

ATE: Acute Toxicity Estimate

CAS: Chemical Abstracts Service (division of the American Chemical Society).

CLP: Classification, Labeling and Packaging (European Union (EU)).

DOT: US Department of Transportation.

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

HMIS: Hazardous Materials Identification System.

HNOC: Hazards Not Otherwise Classified.

IARC: International Agency for Research on Cancer.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA).

IDLH: Immediately Dangerous to Life or Health (US National Institute for Occupation Health and Safety (NIOSH)).

IMDG: International Maritime Code for Dangerous Goods.

NFPA: National Fire Protection Association.

NIOSH: National Institute of Occupational Safety and Health.

NTP: National Toxicology Program.

OECD: Organization for Economic Co-Operation and Development.

OEL: Occupational Exposure Limit.

OSHA: Occupational Safety and Health Administration.

PEL: Permissible Exposure Limits.

REL: Recommended Exposure Limits.

SARA: Superfund Amendments and Reauthorization Act.

STEL (ST): Short Term Exposure Limit (ACGIH/NIOSH)

STOT: Specific Target Organ Toxicity.

TLV: Threshold Limit Values (ACGIH).

TWA: Time Weighted Average.

VOC: Volatile Organic Compound.

#### Disclaimer

**The information herein is believed to be accurate and is presented in good faith; however, no warranties or representations are made by Ereztech LLC regarding the accuracy or completeness of the information. Ereztech LLC shall not be liable for any damages resulting from the handling, or from the contact with the above product.**

**Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.**