



Material Safety Data Sheet

Catalog Number: 205533
Revision date: 25-Apr-2006

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY INFORMATION

Catalog Number: 205533

Product name: PENTACARBONYL IRON

Supplier:

MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH 44139
tel: 440-337-1200

Emergency telephone number: CHEMTREC: 1-800-424-9300 (1-703-527-3887)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Weight %	ACGIH Exposure Limits:	OSHA Exposure Limits:
PENTACARBONYL IRON	13463-40-6	90 - 100%	0.1 ppm TWA (as Fe)	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Very toxic in contact with skin. May be toxic by ingestion or inhalation.

Category of Danger:

Very Toxic

Principle routes of exposure: Skin

Inhalation: Harmful by inhalation.

Ingestion: Harmful if swallowed.

Skin contact: Very toxic in contact with skin.

Eye contact: Risk of serious damage to eyes

ANSI Classification Irritant - eye, skin, respiratory

Statements of hazard Very toxic in contact with skin

Statement of Spill or Leak - ANSI Label Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment.

Statement of First Aid (Insert POISON with Skull & Crossbones)

Call a physician immediately. If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Call a physician. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

Precautions - ANSI Label Do not taste or swallow. Wash thoroughly after handling. Avoid contact with skin, eyes and clothing Do not breathe vapors or spray mist Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Avoid breathing vapors. Avoid prolonged or repeated contact with the skin, eyes or respiratory tract. Wash thoroughly after exposure.

4. FIRST AID MEASURES

General advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Inhalation: Move to fresh air. Call a physician immediately.

Skin contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove and wash contaminated clothing before re-use. Rinse immediately with plenty of water for at least 15 minutes. Call a physician immediately.

Ingestion: Call a physician immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician immediately. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Protection of first-aiders: No information available

Medical conditions aggravated by exposure: None known

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

Use dry chemical, CO₂, water spray or `alcohol` foam.

Specific hazards:

Burning produces irritant fumes.

Unusual hazards:

None known

Special protective equipment for firefighters:

Wear self contained breathing apparatus for fire fighting if necessary. In the event of fire and/or explosion do not breathe fumes.

Specific methods:

Water mist may be used to cool closed containers.

Flash point:

Not determined

Autoignition temperature:

50 °C (DIN 51794)

NFPA rating:

NFPA Health:	4
NFPA Flammability:	0
NFPA Reactivity:	0

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Use personal protective equipment.

Environmental precautions:

Do not flush into surface water or sanitary sewer system.

Methods for cleaning up:

Ground and bond containers when transferring material. Soak up with inert absorbent material.

7. HANDLING AND STORAGE

Storage:

+4°C
PROTECT FROM LIGHT

Handling:

Use only in area provided with appropriate exhaust ventilation.

Safe handling advice:

Wear personal protective equipment. Remove and wash contaminated clothing before reuse.

Technical measures/storage conditions:

Keep containers tightly closed in a cool, well-ventilated place. Keep container tightly closed in a dry and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition.

Incompatible products:

Oxidising and spontaneously flammable products

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Ensure adequate ventilation, especially in confined areas.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection: In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hand protection: Pvc or other plastic material gloves

Skin and body protection: Impervious clothing Long sleeved clothing

Eye protection: If splashes are likely to occur, wear: Safety glasses with side-shields Goggles

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.



9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Formula:	C ₅ FeO ₅
Molecular weight:	195.90
Melting point/range:	-20 °C
Boiling point/range:	103 °C
Density:	1.45 g/cm ³
Vapor pressure:	35 hPa at 20 °C
Evaporation rate:	No data available
Vapor density:	No data available
Solubility (in water):	Slightly soluble
Flash point:	Not determined
Autoignition temperature:	50 °C (DIN 51794)

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Polymerization:	None under normal processing.
Hazardous decomposition products:	Thermal decomposition can lead to release of irritating gases and vapours such as carbon oxides.
Materials to avoid:	Strong oxidising agents
Conditions to avoid:	Exposure to air or moisture over prolonged periods.

11. TOXICOLOGICAL INFORMATION

Product Information

Acute toxicity

Components

PENTACARBONYL IRON

RTECS Number:

NO4900000

Selected LD50s and LC50s

Inhalation LC50 Rat : 910 mg/m³/30M

Inhalation LC50 Mouse : 2190 mg/m³/30M

Oral LD50 Rat : 25 mg/kg

Oral LD50 Mouse : 62 mg/kg

Dermal LD50 Rabbit : 240 mg/kg

Chronic toxicity:	Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness.
Local effects:	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.
Specific effects:	May include moderate to severe erythema (redness) and moderate edema (raised skin), nausea, vomiting, headache.
Primary irritation:	No data is available on the product itself.
Carcinogenic effects:	No data is available on the product itself.

Mutagenic effects:
Reproductive toxicity:
Components
 PENTACARBONYL IRON

No data is available on the product itself.
 No data is available on the product itself.
NIOSH - Health Effects
 Lung effects, degenerative changes in CNS

NIOSH - Target Organs
 eyes, respiratory system, CNS, liver, kidneys

12. ECOLOGICAL INFORMATION

Mobility: No data available
Bioaccumulation: No data available
Ecotoxicity effects: No data available
Aquatic toxicity: May cause long-term adverse effects in the aquatic environment.

Components PENTACARBONYL IRON	U.S. DOT - Appendix B - Marine Pollutan Not Listed	U.S. DOT - Appendix B - Severe Marine Pollutants Not Listed	United Kingdom - The Red List: Not Listed
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Components PENTACARBONYL IRON	Germany VCI (WGK) Not Listed	World Health Organization (WHO) - Drinking Water Not Listed	Ecotoxicity - Fish Species Data Not Listed
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Components PENTACARBONYL IRON	Ecotoxicity - Freshwater Algae Data Not Listed	Ecotoxicity - Microtox Data Not Listed	Ecotoxicity - Water Flea Data Not Listed
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Components PENTACARBONYL IRON	EPA - ATSDR Priority List Not Listed	EPA - HPV Challenge Program Chemical List indicator 3; Fully sponsored	California - Priority Toxic Pollutants Not Listed
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Components PENTACARBONYL IRON	California - Priority Toxic Pollutants Not Listed	California - Priority Toxic Pollutants Not Listed
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13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.

Contaminated packaging: Do not re-use empty containers

Methods for cleaning up: Ground and bond containers when transferring material
Soak up with inert absorbent material.

14. TRANSPORT INFORMATION

UN/Id No: 1994


DOT:

Proper shipping name: Iron pentacarbonyl
IATA Hazard Label(s): Toxic & Flammable Liquid
Hazard Class: 6.1 - Toxic substances - dermal
Subsidiary risk: 3- Flammable Liquid

Packing group: Truck Only

Emergency Response Guide Number (ERG): 131

Components **U.S. DOT - Appendix A Table 1 - Reportable Quantities**
 PENTACARBONYL IRON Not Listed

TDG (Canada):
WHMIS hazard class: B4 flammable solids
 D2b toxic materials


IMDG/IMO
Proper shipping name: Iron pentacarbonyl
IMDG - Hazard Classifications IMDG class or division = 6.1, 3
IMDG - Regulated Substances UN1994

Components **U.S. DOT - Appendix B - Marine Pollutant** **U.S. DOT - Appendix B - Severe Marine Pollutants**
 PENTACARBONYL IRON Not Listed Not Listed

IMO-labels:

15. REGULATORY INFORMATION

International Inventories

Components
 PENTACARBONYL IRON
Inventory - United States TSCA - Sect. 8(b) Present
Canada DSL Inventory List - Present
Australia (AICS): Present
Inventory - China: Present
EU EINECS List - 236-670-8; C5FeO5
Inventory - Japan: 1-1074
Korean KECL: KE-27863
Philippines PICCS: Present

U.S. regulations:

Components	California Proposition 65	Massachusetts Right to Know List:	New Jersey Right to Know List:	Pennsylvania Right to Know List:
PENTACARBONYL IRON	- Not Listed	extraordinarily hazardous	sn 1037	environmental hazard

Components	Florida substance List:	Rhode Island Right to Know List:	Illinois - Toxic Air Contaminants	Connecticut - Hazardous Air Pollutants
PENTACARBONYL IRON	[present]	Toxic	Not Listed	16 ug/m ³ HLV; 2 ppbv HLV

Components**SARA 313 Emission
reporting/Toxic Release
of Chemicals****CERCLA/SARA - Section NTP:
302 Extremely Haz****IARC:**

PENTACARBONYL IRON

form R reporting required
for 1.0% de minimis
concentrationTPQ = 100 pounds; RQ = None
100 pounds

None

SARA 313 Notification:

The above is your notification as to the SARA 313 listing for this product(s) pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

If you are unsure if you are subject to the reporting requirements of Section 313, or need more information, please call the EPA Emergency Planning and Community Right-To-Know Information Hotline: (800) 535-0202 or (202) 479-2499 (in Washington, DC or Alaska).

State Notification:

The above information is your notice as to the Right-to-Know listings of the stated product(s). Individual states will list chemicals for a variety of reasons including, but not limited to, the compounds toxicity; carcinogenic, tumorigenic and/or reproductive hazards; and the compounds environmental impact if accidentally released.

16. OTHER INFORMATION**Prepared by:** Health & Safety

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End of Safety Data Sheet