

SAFETY DATA SHEET

Creation Date 21-May-2010

Revision Date 18-Jan-2018

Revision Number 3

1. Identification

Product Name Ferrocenecarboxaldehyde

Cat No. : AC153530000; AC153530010; AC153530050; AC153530250

CAS-No 12093-10-6
Synonyms Cyclopentadienyl(formylcyclopentadienyl)iron

Recommended Use Laboratory chemicals.
Uses advised against Food, drug, pesticide or biocidal product use.
Details of the supplier of the safety data sheet

Company

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Acute oral toxicity

Category 3

Label Elements

Signal Word

Danger

Hazard Statements

Toxic if swallowed

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product

Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Rinse mouth

Storage

Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

| Component | CAS-No | Weight % |
|--------------------|------------|----------|
| Ferrocene, formyl- | 12093-10-6 | 98 |

4. First-aid measures

| | |
|--|--|
| Eye Contact | Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. |
| Skin Contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required. |
| Inhalation | Remove from exposure, lie down. Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required. |
| Ingestion | Call a physician immediately. Clean mouth with water. |
| Most important symptoms and effects | No information available. |
| Notes to Physician | Treat symptomatically |

5. Fire-fighting measures

| | |
|---------------------------------------|--|
| Suitable Extinguishing Media | Water spray. Carbon dioxide (CO ₂). Dry chemical. Chemical foam. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | No information available |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| Upper | No data available |

Lower Sensitivity to Mechanical Impact No data available
Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

| | | | |
|--------------------|--------------------------|-------------------------|--------------------------------|
| Health 3 | Flammability 0 | Instability 0 | Physical hazards N/A |
|--------------------|--------------------------|-------------------------|--------------------------------|

6. Accidental release measures

Personal Precautions Ensure adequate ventilation. Use personal protective equipment as required.
Environmental Precautions See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up Wear self-contained breathing apparatus and protective suit. Sweep up and shovel into suitable containers for disposal. Do not let this chemical enter the environment.

7. Handling and storage

Handling Do not breathe dust. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Handle product only in closed system or provide appropriate exhaust ventilation.

Storage Keep in a dry, cool and well-ventilated place. Refer product specification and/or product label for specific storage temperature requirement. Keep container tightly closed.

8. Exposure controls / personal protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|--------------------|--------------------------|------------------------------------|--------------------------|--------------------------|
| Ferrocene, formyl- | TWA: 1 mg/m ³ | (Vacated) TWA: 1 mg/m ³ | TWA: 1 mg/m ³ | TWA: 1 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
 OSHA - Occupational Safety and Health Administration
 NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

| | |
|---|--------------------------------------|
| Physical State | Solid |
| Appearance | Red brown |
| Odor | No information available |
| Odor Threshold | No information available |
| pH | No information available |
| Melting Point/Range | 120 - 124 °C / 248 - 255.2 °F |
| Boiling Point/Range | No information available |
| Flash Point | No information available |
| Evaporation Rate | Not applicable |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | No information available |
| Vapor Density | Not applicable |
| Specific Gravity | No information available |
| Solubility | insoluble |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Viscosity | Not applicable |
| Molecular Formula | C ₁₁ H ₁₀ Fe O |
| Molecular Weight | 214.05 |

10. Stability and reactivity

| | |
|---|---|
| Reactive Hazard | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Incompatible products. |
| Incompatible Materials | Strong oxidizing agents, Strong bases |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO ₂) |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | None under normal processing. |

11. Toxicological information**Acute Toxicity****Product Information****Component Information**

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation No information available

Sensitization No information available

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|-----------|--------|------|-----|-------|------|--------|
|-----------|--------|------|-----|-------|------|--------|

| | | | | | | |
|---|--|------------|------------|------------|------------|------------|
| Ferrocene, formyl- | 12093-10-6 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Mutagenic Effects | No information available | | | | | |
| Reproductive Effects | No information available. | | | | | |
| Developmental Effects | No information available. | | | | | |
| Teratogenicity | No information available. | | | | | |
| STOT - single exposure | None known | | | | | |
| STOT - repeated exposure | None known | | | | | |
| Aspiration hazard | No information available | | | | | |
| Symptoms / effects, both acute and delayed | No information available | | | | | |
| Endocrine Disruptor Information | No information available | | | | | |
| Other Adverse Effects | The toxicological properties have not been fully investigated. | | | | | |

12. Ecological information

Ecotoxicity

Do not empty into drains.

| | |
|--------------------------------------|---|
| Persistence and Degradability | Insoluble in water |
| Bioaccumulation/ Accumulation | No information available. |
| Mobility | Is not likely mobile in the environment due its low water solubility. |

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

| | |
|-----------------------------|---|
| UN-No | UN3467 |
| Proper Shipping Name | ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S. |
| Technical Name | Ferrocene, formyl- |
| Hazard Class | 6.1 |
| Packing Group | II |

TDG

| | |
|-----------------------------|---|
| UN-No | UN3467 |
| Proper Shipping Name | ORGANOMETALLIC COMPOUND, TOXIC, SOLID, N.O.S. |
| Hazard Class | 6.1 |
| Packing Group | II |

IATA

| | |
|-----------------------------|---|
| UN-No | UN3467 |
| Proper Shipping Name | ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S. |
| Hazard Class | 6.1 |
| Packing Group | II |

IMDG/IMO

| | |
|-----------------------------|---|
| UN-No | UN3467 |
| Proper Shipping Name | ORGANOMETALLIC COMPOUND, SOLID, TOXIC, N.O.S. |
| Hazard Class | 6.1 |
| Packing Group | II |

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Creation Date 21-May-2010
Revision Date 18-Jan-2018
Print Date 18-Jan-2018
Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS