

DATE: 03/30/98 ACCT: 742982001
INDEX: N/A CAT NO: AC119140050 PO NBR: N/A

PAGE: 1

**** MATERIAL SAFETY DATA SHEET ****

Ferrocene, 98%
03388

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Ferrocene, 98%
Catalog Numbers:
AC119140000, AC119140050, AC119141000, AC119145000
Synonyms:
Dicyclopentadienyliron
Company Identification: Acros Organics N.Y.
One Reagent Lane
Fair Lawn, NJ 07410
For information in North America, call 1-800-ACROS-01
For emergencies in the US, call CHEMTREC, 800-424-9300

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS #	Chemical Name	%	INECS#
102-54-5	Ferrocene	98.0	203-039-3

Hazard Symbols: XN
Risk Phrases: 22

**** SECTION 3 - HAZARDS IDENTIFICATION ****
EMERGENCY OVERVIEW

Appearance: orange.
Odor: No information. The toxicological properties of this chemical have not been fully investigated. May cause blood abnormalities.
Target Organs: Blood, liver.

Potential Health Effects

Eye: No information regarding eye irritation and other potential effects was found.

Skin: No information regarding skin irritation and other potential effects was found.

Ingestion: May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated. May cause blood abnormalities and hepatic cirrhosis.

Inhalation: Toxicological properties of this substance have not been fully investigated. Inhalation of dust may cause respiratory tract irritation.

Chronic: No information found.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Get medical aid immediately.

Skin: Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If conscious and alert, give 2-4 cupsful of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:
Treat symptomatically.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information:
As in any fire, wear a self-contained breathing apparatus in protective gear.
Extinguishing Media:
In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.
Autoignition Temperature: Not available.
Flash Point: Not available.
NFPA Rating: Not published.
Explosion Limits: Lower: Not available.
Upper: Not available.

DATE: 03/30/98 ACCT: 742982001
INDEX: N/A CAT NO: AC119140050 PO NBR: N/A

PAGE: 2

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions.

**** SECTION 7 - HANDLING AND STORAGE ****

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls:
Use adequate ventilation to keep airborne concentrations low.

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ferrocene	10 mg/m3	total: 10 mg/m3 TWA, respirable dust: 5 mg/m3 TWA	total dust: 15 mg/m3 TWA, respirable fraction: 5 mg/m3 TWA

OSHA Vacated PELs:

Ferrocene:
total dust: 10 mg/m3 TWA; respirable fraction: 5 mg/m3 TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134. Always use a NIOSH-approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Crystals
Appearance: orange
Odor: camphor
pH: Not available
Vapor Pressure: 0.05 mbar @ 40
Vapor Density: Not available
Evaporation Rate: Not available
Viscosity: Not available
Boiling Point: 249 deg C @ 760.00mm Hg
Freezing/Melting Point: 173.0 - 174.0 deg C
Decomposition Temperature: 465 deg C
Solubility: Insoluble
Specific Gravity/Density: Not available.
Molecular Formula: C10H10Fe
Molecular Weight: 186.04

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable under normal temperatures and pressures.
Conditions to Avoid:
Incompatible materials, dust generation, excess heat, strong oxidants.
Incompatibilities with Other Materials:
Strong oxidizing agents, ammonium perchlorate, tetranitromethane, mercury (III) nitrate
Hazardous Decomposition Products:
Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTCS#:
CAS# 102-54-5: LK0700000
LD50/LC50:

CAS# 102-54-5: Oral, mouse: LD50 = 832 mg/kg; Oral, rat: LD50 = 1320 mg/kg

Carcinogenicity:

Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Ecotoxicity:
Not available.

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****

Dispose of in a manner consistent with federal, state, and local regulations.
RCRA D-Series Chronic Toxicity Reference Levels: None

RCRA F-Series: None listed.
RCRA P-Series: None listed.
RCRA U-Series: None listed.
Not listed as a material banned from land disposal according to RCRA.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
IMO No information available

IMO Not regulated as a hazardous material.

IATA Not regulated as a hazardous material.

RID/ADR Not regulated as a hazardous material.

Canadian TDG
No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA

CAS# 102-54-5 is listed on the TSCA Inventory.
Health & Safety Reporting List

Chemical Test Rules
Section 122: None of the chemicals in this product are under a Chemical Test Rule.

Section 123: None of the chemicals in this product are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

SARA
Section 302 (RQ)
None of the chemicals in this material have an RQ.

Section 302 (TPQ)
None of the chemicals in this product have a TPQ.

Section 313
No chemicals are reportable under Section 313.

Clean Air Act:
This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.
This material does not contain any Class 2 Ozone depleters.

Clean Water Act:
None of the chemicals in this product are listed as Hazardous

Substances under the CWA.

None of the chemicals in this product are listed as Priority

Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants

under the CWA.

OSHA:
None of the chemicals in this product are considered highly hazardous

by OSHA.

STATE
Ferrocene can be found on the following state right to know lists:

California, New Jersey, Florida, Pennsylvania, Minnesota,
Massachusetts,
None of the chemicals in this product are listed.

European/International Regulations
Hazard Symbols: XN
Risk Phrases:
R 22 Harmful if swallowed.

Safety Phrases:
WGK (Water Danger/Protection)

CAS# 102-54-5:

Canada
CAS# 102-54-5 is listed on Canada's DSL/NDL List.

This product has a WHMIS classification of DDB.
CAS# 102-54-5 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits

CAS# 102-54-5: OEL-AUSTRALIA: TWA 10 mg/m³; OEL-BELGIUM: TWA 10 mg/m³
OEL-FINLAND: TWA 10 mg/m³; STEL 20 mg/m³; OEL-FRANCE: TWA 10 mg/m³
OEL-THE NETHERLANDS: TWA 10 mg/m³; OEL-SWITZERLAND: TWA 10 mg/m³; OEL-U
NITED KINGDOM: TWA 10 mg/m³; STEL 20 mg/m³; OEL IN BULGARIA, COLOMBIA, J
ORDAN, KOREA check ACGIH TLV; OEL IN NEW ZEALAND, SINGAPORE, VIETNAM c
heck ACGI TLV

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 3/01/1994 Revision #1 Date: 3/04/1996

The information above is believed to be accurate and represents the best
information currently available to us. However, we make no warranty of
accuracy, reliability or completeness, and we assume no liability resulting from its use.
Users should make their own investigations to determine the suitability of the
information for their particular purposes. In no way shall Fisher be liable
for any claims, losses, or damages of any third party or for lost profits
or any special, indirect, incidental, consequential or exemplary
damages, howsoever arising, even if Fisher has been advised of
the possibility of such damages.