

Material Safety Data Sheet

Ferrocene, 98%

ACC# 03388

Section 1 - Chemical Product and Company Identification

MSDS Name: Ferrocene, 98%

Catalog Numbers: AC119140000, AC119140050, AC119141000, AC119145000

Synonyms: Biscyclopentadienyliron; di-2,4-cyclopentadien-1-yliron; ferrotsen; Bis(cyclopentadiene); Iron Dicyclopentadienyl.

Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
102-54-5	Ferrocene	98.0	203-039-3

Hazard Symbols: XN

Risk Phrases: 22

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: orange. Heat sensitive. **Caution!** The toxicological properties of this material have not been fully investigated. May cause liver damage. May cause blood abnormalities. May be harmful if swallowed.

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: The 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 eyelids. 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. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls 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 and supportively.

Antidote: None reported.

Section 5 - Fire Fighting Measures

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

Extinguishing Media: In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.

Section 6 - Accidental Release Measures

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

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

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.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Ferrocene	10 mg/m ³ TWA	total: 10 mg/m ³ TWA; respirable dust: 5 mg/m ³ TWA	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)

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 or European Standard EN166.

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 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 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

Autoignition Temperature: Not available.

Flash Point: Not available.

Decomposition Temperature: > 465 deg C

NFPA Rating:

Explosion Limits, Lower: Not available.

Upper: Not available.

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

RTECS#:**CAS#** 102-54-5: LK0700000**LD50/LC50:**

CAS# 102-54-5:

Oral, mouse: LD50 = 832 mg/kg;

Oral, rat: LD50 = 1320 mg/kg;

Carcinogenicity:

CAS# 102-54-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: No information available.**Teratogenicity:** No information available.**Reproductive Effects:** No information available.**Neurotoxicity:** No information available.**Mutagenicity:** No information available.**Other Studies:** No data available.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:** None listed.

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	No information available.				No information available.
Hazard Class:					
UN Number:					
Packing Group:					

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 102-54-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals 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

CAS# 102-54-5 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 22 Harmful if swallowed.

Safety Phrases:

WGK (Water Danger/Protection)

CAS# 102-54-5: No information available.

Canada

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

This product has a WHMIS classification of D2B.

CAS# 102-54-5 is 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;Skin OEL-FRANCE:TWA 10 mg/m³

OEL-THE NETHERLANDS:TWA 10 mg/m³ OEL-SWITZERLAND:TWA 10 mg/m³ OEL-UNITED KINGDOM:TWA 10 mg/m³;STEL 20 mg/m³ OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

Section 16 - Additional Information

MSDS Creation Date: 2/24/1999

Revision #1 Date: 8/02/2000

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