S a f e t y D a t a S h e e t

According to Regulation (EC) 1907/2006

15A392 **Ferrocene, 98%** PS

1. Identification of the substance/preparation and of the company or firm

1.1 Identification of the substance or preparation

Name:

Ferrocene

1.2 Use of the substance/preparation:

For laboratory utilisation, analysis, research and fine chemistry.

1.3 Identification of the company or firm:

PANREAC QUIMICA, S.L.U.
C/Garraf, 2
Polígono Pla de la Bruguera
E-08211 Castellar del Vallès
(Barcelona) Spain
Tel. (+34) 937 489 400
e-mail: product.safety@panreac.com

Emergencies:

Single telephone number for emergency calls: 112 (EU)

Tel.:(+34) Tel.:(+34) 937 489 499

2. Identification of dangers

Highly flammable. Harmful if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. Component Composition/Information

Name: Ferrocene

Formula: $(C_5H_5)_2Fe$ M.=186,04 CAS [102-54-5]

EC number (EINECS): 203-039-3

4. First aid

4.1 General indications:

Never provide drink or induce vomiting in the event of loss of consciousness.

4.2 Inhaling:

Go out into the fresh air. In the event sickness persists, seek medical assistance.

4.3 Contact with the skin:

Wash with plenty of soap and water. Remove contaminated clothing. In the event of irritation, seek medical assistance.

4.4 Eyes:

Wash with plenty of water (for at least 15 minutes), keeping eyelids open. Seek immediate medical assistance.

4.5 Swallowing:

Drink large amounts of water. Avoid vomiting. Seek immediate medical assistance.

5. Fire-fighting means

5.1 Suitable fire-extinguishing means:

Water. Carbon dioxide (CO_2). Foam. Dry powder.

5.2 Fire-fighting means which must NOT be used:

5.3 Special risks:

Combustible. Keep away from sources of ignition. In the event of fire, toxic fumes may form. Do not allow extinguishing water into surface or underground water courses.

5.4 Protective equipment:

Suitable clothing and footwear. Self-contained breathing equipment.

6. Measures to be taken in the event of accidental spillage

6.1 Individual precautions:

Avoid contact with the skin, eyes or clothing. Ensure adequate ventilation. Do not inhale the dust.

6.2 Precautions for care of the environment:

Do not allow it to enter the drainage system. Avoid pollution of the soil, water supplies and drains.

6.3 Methods for collection/cleaning:

Collect up dry and deposit in waste containers for subsequent elimination in accordance with current legislation. Clean any remains with plenty of water.

7. Handling and storage

7.1 Handling:

Ensure good ventilation and renewal of the air in the premises.

7.2 Storage:

Well sealed containers. In a cool, dry, well ventilated place. Atmospheric temperature.

8. Staff exposure/protection controls

8.1 Technical protective measures:

Ensure good ventilation and renewal of the air in the premises.

8.2 Exposure limit control:

VLA-ED: 10 mg/m3

8.3 Respiratory protection:

If dust forms, use suitable respiratory protection.

8.4 Hand protection:

Use suitable gloves.

8.5 Eye protection:

Use suitable goggles.

8.6 Individual hygiene measures:

Remove contaminated clothing. Use suitable work clothing. Wash hands before breaks and when the job is done. Avoid the formation of dust. Do not inhale the substance.

8.7 Environmental exposure controls:

Fulfill the commitments under local environmental protection legislation.

The supplier of the protection equipment must specify the type of protection to be worn when handling the substance or preparation, including the type of material and the breakthrough time of the material, with regard to the amount and duration of exposure.

9. Physical and chemical properties

Appearance:

Orange solid.

Odour:

Characteristic.

Boiling point:249°C
Melting point: 172-176°C
Self-ignition temperature: >150°
Vapour pressure: 3,4 hPa(100°C)
Specific gravity: 0,5
Solubility: Insoluble in water. Soluble in alcohol and ether.

10. Stability and reactivity

10.1 Conditions which should be avoided:

High temperatures.

10.2 Matter which should be avoided:

Strong oxidant agents.

10.3 Hazardous decomposition products:

Carbon monoxide. Carbon dioxide.

10.4 Complementary information:

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11. Toxicological information

11.1 Acute toxicity:

LD_{50} oral rat: 1320 mg/kg
LD_{50} oral mouse: 832 mg/kg
LD_{50} intraperitoneal rat: 500 mg/kg
LD_{50} intraperitoneal mouse: 335 mg/kg

11.2 Dangerous effects for health:

Through contact with the eyes: Can cause irritations.
Upon contact with the skin: Can cause irritations.
If inhaled: Can cause irritations.
If swallowed: Harmful to the health.
Other dangerous characteristics are not discarded. Take the usual precautions for handling chemical products.

12. Environmental information

12.1 Mobility:

12.2 Ecotoxicity:

12.1.1 - EC_{50} test (mg/l):
Daphnia CE50: 2,7 mg/l
Algae CE50: 2,8 mg/l
Fish (Leuciscus Idus) CL: 4,5 mg/l/48h
12.2.2 - Receptor medium:
Risk for the water environment = ----
Risk for the land environment = ----
12.2.3 - Observations:
Ecotoxic in water environment.

12.3 Degradability:

12.3.1 - Test: BOD_5 = ------
12.3.2 - Biotic degradation classification:
BOD_5/COD Biodegradability = 0,60/28d
12.3.3 - Abiotic degradation depending on pH: -------
12.3.4 - Observations:
Low biodegradability product.

12.4 Accumulation:

12.4.1 - Test:

12.4.2 - Bioaccumulation:
Risk = -----
12.4.3 - Observations:
Data not available.

12.5 Other possible effects on the environment:

Do not allow it to enter soils or water channels. Do not allow it to enter the sewage system.

13. Considerations regarding elimination

13.1 Substance or preparation:

In the European Union, there are no homogeneous standards established for elimination of chemical waste, which is waste of a special nature, and treatment and elimination of same is subject to the domestic legislation in each country. In view of this, in each case, you should contact the competent authority or those companies legally authorized for elimination of waste.
2001/573/EC: Council Decision of 23 July 2001 amending Commission Decision 2000/532/EC as regards the list of wastes.
Council Directive 91/156/EEC of 18 March 1991 amending Directive 75/442/EEC on waste.

13.2 Contaminated containers:

Contaminated containers and packaging of dangerous substances or preparations must be treated in the same manner as the actual products contained in them.
European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging waste.

14. Information concerning transport

Overland (ADR):
Technical name: SÓLIDO ORGÁNICO INFLAMABLE, N.E.P.
ONU 1325 Class: 4.1 Packaging group: II (E)
By sea (IMDG):
Technical name: SÓLIDO ORGÁNICO INFLAMABLE, N.E.P.
ONU 1325 Class: 4.1 Packaging group: II
By air (ICAI-IATA):
Technical name: Sólido inflamable, orgánico, n.e.p.
ONU 1325 Class: 4.1 Packaging group: II
Packaging instructions: CAO 417 PAX 415

15. Mandatory information

15.1 Labelling as per REACH

Symbols: 

Danger indications: Highly flammable Harmful Dangerous for the environment
Phrases R: 11-22-51/53 Highly flammable. Harmful if swallowed. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Phrases S: 22-61 Do not breathe dust. Avoid release to the environment. Refer to special instructions-safety data sheet.

16. Other information

Review number and date:2 07.06.09

In respect of the previous review, changes have been made to the following sections: 3, 14, 15.

The information included in this Safety Data Sheet is based on our most up-to-date knowledge, and is solely intended to inform regarding aspects of safety; the properties and characteristics indicated herein are not guaranteed.