

MATERIAL SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006



Revision date : 05/07/2016

Version 16.1

SECTION 1. Identification of the substance / mixture and of the company / undertaking

1.1 Product identifier

Product number : **942**

Product name : **Reagent ferrometer**

REACH Registration Number: This product is a mixture. REACH Registration Number see section 3.

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Reagent for analysis

1.3 Details of the supplier of the material safety data sheet

Company : Laboratoires Dujardin-Salleron 37210 Noizay France Tél. +33 (0)2 47 25 58 25
email : info@dujardin-salleron.com - web : www.dujardin-salleron.com

1.4 Emergency telephone nb Please contact the regional company representation in your country.

SECTION 2. Hazards identification

2.1 Classification of the substance or mixture

Classification (Regulation (CE) N° 1272/2008)

Hazards for the aquatic environment - Aquatic Chronic, Category 3, H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling (Regulation (CE) N° 1272/2008)

Hazard etograms

None

Signal word

None

Hazard statements

H412 Harmful to aquatic life with long-lasting effects.

Precautionary statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P264 Wash hand thoroughly after handling.

Additional hazard information

EUH032 Contact with acids liberates very toxic gas.

2.3 Other hazards

None known.

SECTION 3. Composition/information on ingredients

Chemical nature : Aqueous solution

3.1 Substance : not applicable

3.2 Mixture :

Hazardous components (Regulation (CE) N° 1272/2008)

Chemical name (Concentration) :

Potassium Ferrocyanide (≥ 9% - < 11%)

N°CAS	N° CE	N° REACH	Classification
14459-91-1	237-7220-2	Not available	Hazards for the aquatic environment - Aquatic Chronic, Category 3, H412

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For the full text of the R-phrases mentioned in this Section, see Section 16.

SECTION 4. First aid measures

4.1 Description of first aid measures

After inhalation : fresh air. Call in physician.

After skin contact : wash off with plenty of water. Immediately remove contaminated clothing. In case of persistent irritation, consult a doctor.

After eye contact : rinse out with plenty of water. Immediately call in ophthalmologist.

After swallowing : rinse out the mouth with plenty of water. Avoid vomiting. Call in physician.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment

No information available.

SECTION 5. Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, Carbon dioxide (CO₂), Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Not combustible.

Development of hazardous combustion gases or vapours possible in the event of fire : Nitrogen oxides (NO_x), carbon monoxide (CO), carbon dioxide (CO₂), potassium oxide, iron oxide, hydrocyanic acid (HCN).

5.3 Advice for firefighters

Special protective equipment for firefighters

Stay in danger area only with self-contained breathing apparatus. Do not inhale flue gases and fire gases. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Further information

Prevent extinguishing water from entering the natural environment and sewers.

SECTION 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel : Avoid substance contact. Do not breathe vapours, aerosols. Assurer une ventilation adéquate. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders : Protective equipment see section 8.

6.2 Environmental precautions

Do not discharge residues into drains or into the environment.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Never return spilled material to original containers for recycling. Take up with liquid-absorbent and neutralising material (e.g. Trivorex® PREVOR). Thoroughly clean soil and dirty objects in compliance with environmental regulations. Collect in suitable, closed containers

6.4 Reference to other sections

Indications about waste treatment see section 13.

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SECTION 7. Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions

Ensure good ventilation / exhaust of the workplace.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

Storage temperature : + 15°C à +25°C

Keep container tightly closed, away from acids, in a cool, dry and well ventilated area.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

Contains no substances and quantities sufficient with occupational exposure limit values.

8.2 Exposure controls

Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

See section 7.1.

Individual protection measures

Eye/face protection

Tightly fitting safety goggles

Hand protection

Full contact :

Glove material : Nitrile rubber

Glove thickness : 0,11 mm

Break through time : > 480 min

Splash contact :

Glove material : Nitrile rubber

Glove thickness : 0,11 mm

Break through time : > 480 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374.

Other protective equipment

Wear chemical protective clothing, CE marked.

Respiratory protection

Required when vapours/aerosols are generated.

Recommended Filter type : B (P2)

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not discharge into drains.

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SECTION 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid.
Colour	colourless.
Odour	odorless.
Odour Threshold	not applicable.
pH (at 10%)	around 10 to 20°C.
Melting point	0°C.
Boiling point	100°C.
Flash point	no information available.
Evaporation rate	no information available
Flammability (solid, gas)	not applicable.
Lower explosion limit	no information available.
Upper explosion limit	no information available.
Vapour pressure	23 hPa at 20°C.
Relative vapor density	no information available.
Relative density	1,085 at 20°C.
Water solubility	289 g/l at 20°C.
Partition Coefficient : n-octanol/water	no information available.
Auto-ignition temperature	no information available.
Decomposition temperature	no information available..
Viscosity, dynamic	no information available.
Explosive properties	Not classified as explosive.
Oxidizing properties	none

9.2 Other data

Apparent density	no information available.
Refractive index	no information available.
Dissociation constant	no information available.
Surface tension	no information available.
Constant of Henry	no information available.

9.3 Other information

No additional information available.

SECTION 10. Stability and reactivity

10.1 Reactivity

See below

10.2 Chemical stability

The product is chemically stable for 2 years under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

May react strongly with acids, with release of hydrocyanic acid (very dangerous gases).

10.4 Conditions to avoid

No additional information available.

10.5 Incompatible materials

Acids (see section 10.3).

10.6 Hazardous decomposition products

In the event of fire, see section 5.

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SECTION 11. Toxicological information

11.1 Information on toxicological effects

Mixture

Acute oral toxicity

May be harmful if swallowed

Effective dose – Exposure time

No data available

Acute dermal toxicity

Effective dose – Exposure time

No data available

Acute inhalation toxicity

May be harmful if inhaled

Effective dose – Exposure time

No data available

Irritant and caustic effect

Primary skin irritation

No specific effects of skin irritation

Exposure time

No data available

Eye irritation

No specific effects of eye irritation

Exposure time

No data available

Respiratory tract irritation

May be harmful if inhaled

Exposure time

No data available

Sensitisation

In case of skin contact

No data available

If inhaled

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity – Repeated exposure

No data available

CMR effects (carcinogenic mutagenic or toxic to reproduction)

Carcinogenicity

No data available

Mutagenicity / Genotoxicity

No data available

Reproductive Toxicity

No data available

Aspiration hazard

No data available

11.2 Further information

Hazardous properties are not excluded, but are unlikely if appropriately used.

Handle in accordance with good industrial hygiene and safety practice.

Components

Potassium Ferrocyanide (14459-95-1)

Acute oral toxice

DL50 rat oral 3613 mg/kg (IUCLID).

Acute inhalation toxice

Low irritation of the mucous membranes.

Acute dermal toxice

No know effect

Primary Skin Irritation

No irritation - rabbit (OCDE guideline 404).

Eye irritatino

Low irritation – rabbit (OCDE guideline 405).

Skin sensitisation

Negative result – guinea pig (IUCLID).

Specific target organ toxicity – single exposure / repeated exposure

Not classidied as specific toxic

CMR effects (carcinogenic mutagenic or toxic to reproduction)

Mutagenicity / Genotoxicity

Genotoxicity (in vitro) :

Ames Test - Bacillus subtilis – negative result

Carcinogenicity

No know effect

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Reproductive Toxicity

No know effect

Aspiration hazard

No know effect

11.2 further information

The substance is laxative if swallowed at high doses.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12. Ecological information

Mixture

No quantitative data available.

Substance

Potassium Thiocyanate (333-20-0)

Ecotoxicity

Acute short-term toxicity to fish

CL50 *Poecilia reticulata* (Guppie) : 19 mg/l 96h (IUCLID)

Chronic long-term toxicity to fish

CL50 – EC50 – species – Exposure time

No available data

Toxicity to daphnia and other aquatic invertebrates

CE50 *Daphnia magna* : 32 mg/l 96 h (IUCLID)

Acute short-term toxicity for algae

CL50 *Desmodesmus subspicatus* : 0,2 mg/l 4 j (IUCLID)

Acute short-term toxicity to bacteria

EC10 *Pseudomonas fluorescens* : > 1.000 mg/l 24h (IUCLID)

ersistence and degradability

Not readily biodegradable

Bioaccumulation potential

No available data

Mobilty in soil

No available data

PBT/vPvB assesments results

No available data

Other adverse effects

The substance is classified as harmful to aquatic organisms, may cause long-term adverse effects and class 2 WGK (pollutant).

Additional ecological information

Do not empty into drains. Avoid release into the environment.

SECTION 13. Disposal considerations

Waste treatment methods

Waste must be disposed of in accordance with Waste Directive 2008/98 / EC and local and national regulations. Leave chemicals in original containers. No mixing with other wastes. Treat uncleaned containers such as the product itself.

SECTION 14. Transport information

Land transport (ADR/RID)

14.1 - 14.6

This mixture is not subject to regulations for road transport.

Air transport (IATA)

14.1 - 14.6

This mixture is not subject to regulations for air transport.

Sea transport (IMDG)

14.1 - 14.6

This mixture is not subject to regulations for sea transport.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant

SECTION 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Water hazard class (WGK)

Mixture : WGK 1 (low hazard to waters)

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Professional restriction Follow Directive 94/33 / EC on the protection of young people at work and Directive 92/85 / EEC on the safety and health of pregnant women at work

Substances of Very High Concern (SVHC) This product does not contain substances of very high concern above the regulatory limit (> 0.1 % (M/M) Regulation CE N° 1907/2006 (REACH), Article 57).

15.2 Chemical Safety Assessment

No available data.

15.3 Other information

No other information.

SECTION 16. Other information

Full text of H-Statements referred to under sections 2 and 3.

H412 Harmful to aquatic life with long-lasting effects.

EUH032 Contact with acids liberates very toxic gas.

Training advice

Provide adequate information, instruction and training for operators.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at <http://www.wikipedia.org>.

The information contained herein is based on the present state of our knowledge. It characterises the product with regard to the appropriate safety precautions. It does not represent a guarantee of any properties of the product.