

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



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

1.1. Product identifier

Trade name

Potassium ferricyanide

CAS number

13746-66-2

EC number

237-323-3

Synonyms

Tripotassium hexacyanoferrate

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

Relevant identified uses

Research and development. Laboratory Chemicals. Manufacture of substances.

Not suitable for use in

Not suitable for human consumption or veterinary purposes.

1.3. Details of the supplier of the safety data sheet

Supplier

Molekula Group

Address

Molekula Ltd, Lingfield Way, Darlington,
 DL1 4XX Darlington
 United Kingdom

Telephone

+44 (0) 3302 000 333

Email

info@molekula.com

Web site

www.molekula.com

Contact person

Kevin Banks

Email

+44 (0) 7769276927

1.4. Emergency telephone number

Poison center/Additional emergency number

0344 892 0111 - National Poisons Information Service (Newcastle Centre)

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Classification

Hazardous to the aquatic environment — Chronic hazard category 2
 Eye irritation, hazard category 2

Hazard statements

H319, H411

Supplemental hazard statements

EUH032

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

Hazard pictograms



Signal word

Warning

Hazard statements

H319 Causes serious eye irritation.
 H411 Toxic to aquatic life with long lasting effects.

Supplemental hazard statements

EUH032 Contact with acids liberates very toxic gas.

Precautionary statements

P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/fumes/gas/mist/vapours/spray.
 P262 Do not get in eyes, on skin, or on clothing.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P314 Get medical advice/attention if you feel unwell.
 P362 + P364 Take off contaminated clothing and wash it before reuse.
 P391 Collect spillage.
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.
 P501 Dispose of contents/container to local regulations.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical name	CAS No. EC No. REACH No. Index No.	Concentration	Classification	H-phrase M factor acute M factor chronic	Note
Potassium ferricyanide	13746-66-2 237-323-3 - -	100%	Eye Irrit. 2, Aquatic Chronic 2	H319, H411, EUH032 - -	-

Molecular weight

329.24

Substance additional information

For the complete text of H- / EUH-statements mentioned in this section, see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Get medical attention if any discomfort continues. Show this Safety Data Sheet (SDS) to medical personnel.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact

IF ON SKIN: Wash with plenty of water. Continue to rinse for at least 15 minutes and seek medical attention. Get medical advice/attention if you feel unwell.

Eye contact

Remove contact lenses if present. Rinse eyes with water. Continue to rinse for at least 15 minutes and seek medical attention.

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Get medical advice/attention if you feel unwell.

Information for doctors

First aiders/ medical personnel need to protect themselves.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



4.2. Most important symptoms and effects, both acute and delayed

The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

Single exposure may cause the following adverse effects: Upper respiratory irritation. Difficulty in breathing.

Skin contact

Single exposure may cause the following adverse effects: Severe skin irritation.

Eye contact

Single exposure may cause the following adverse effects: Severe irritation.

Ingestion

Single exposure may cause the following adverse effects: Severe abdominal pain. Nausea, vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. No special treatment requirement.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

In case of fire: Use foam, carbon dioxide, dry powder or water fog to extinguish.

Unsuitable extinguishing media

No specific fire fighting procedure given.

5.2. Special hazards arising from the substance or mixture

Specific hazards: None.

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

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

Nitrous gases (NO_x).

Potassium oxides

Iron oxides

Not combustible.

Ambient fire may liberate hazardous vapours.

5.3. Advice for firefighters

Special protective equipment for fire-fighters

Evacuate area. Avoid breathing gas, fume, vapours or spray. Cool containers exposed to heat with water spray and remove container, if no risk is involved.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid breathing dust/fume/gas/mist/vapours/spray. Provide adequate ventilation. Avoid contact with skin and eyes. For personal protection, see section 8.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Collect spillage with shovel, broom or the like and reuse, if possible. Dispose of large amounts of spillage/waste according to agreement with local authorities.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Preventive handling precautions

For precautions see section 2.2. Wear protective clothing, gloves, eye and face protection. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid ingestion and inhalation.

General hygiene

Observe good chemical hygiene practices. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove contaminated clothing and launder thoroughly before re-use. Wash skin thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Store at ambient temperature. Store in a dry place. Store in a closed container.
 Light sensitive. Moisture Sensitive.

7.3. Specific end use(s)

No specific usage precautions noted.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits

TWA. 5mg/m³. UK. EH40. WEL = Workplace Exposure Limit.

STEL. 2mg/m³. UK. EH40. WEL = Workplace Exposure Limit.

TWA/VME: 5mg/m³. 8 hours France.

TWA/VLA-ED. 1mg/m³. 8 hours Spain.

TWA. 2mg/m³. 8 hours MAK 2mg/m³. Germany

TWA. 1mg/m³. 8 hours Portugal

TWA. 1mg/m³. Switzerland

TWA. 5mg/m³. TWA. 1mg/m³. Norway.

DNEL/DMEL

Product/Substance name (CAS No./EC No.)	Type	Exposure	Value	Population	Effects
Potassium ferricyanide (13746-66-2/237-323-3)	DNEL	Chronic (long term) Dermal	9 mg/kg bw/day	Workers	Systemic

PNEC/PEC

Product/Substance name (CAS No./EC No.)	Type	Environmental compartment	Value
Potassium ferricyanide (13746-66-2/237-323-3)	PNEC	Freshwater	1.7 µg/l
Potassium ferricyanide (13746-66-2/237-323-3)	PNEC	Sewage Treatment Plant	100 mg/l
Potassium ferricyanide (13746-66-2/237-323-3)	PNEC	Marine water	0.17 µg/l

8.2. Exposure controls

Personal Protective Equipment Symbols



Eye / face protection

Wear eye protection.

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



Hand protection

Wear protective gloves. Recommended gloves: Nitrile.

Glove Thickness: 0.11mm

Breakthrough time: 8 hours

Always inspect gloves before use. If signs of wear and tear are noticed then the gloves should be replaced.

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. Wash contaminated skin thoroughly after handling.

Other skin protection

Wash skin thoroughly after handling.

Respiratory protection

Provide adequate ventilation. If ventilation is insufficient, suitable respiratory protection must be provided.

Environmental exposure controls

Avoid discharge into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

Solid

Colour

Red.

Odour

Odourless.

Melting point / freezing point

No data available

Boiling point or initial boiling point and boiling range

No data available

Flammability

This product is not flammable.

Lower and upper explosion limit

No data available

Flash point

No data available

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



Auto-ignition temperature

No data available

Decomposition temperature

No data available

pH

6 - 9

Kinematic viscosity

No data available

Solubility

363 g/l

Partition coefficient n-octanol/water

No data available

Vapour pressure

No data available

Density and/or relative density

1.89 g/cm³

Relative vapour density

No data available

Particle characteristics

No data available

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stable under the prescribed storage conditions. Light sensitive. Moisture Sensitive.

10.3. Possibility of hazardous reactions

No data available

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Strong oxidising agents. Strong acids. Ammonia. Hydrochloric acid (HCl). Cyanides

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
Issued: 2024-02-01
Replaces SDS: 2019-10-24



10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product / Substance name CAS / EC no.	Dose descriptor	Value / Dose	Exposure route	Test animals
Potassium ferricyanide 13746-66-2 / 237-323-3	LD50	>5110 mg/kg	-	-
Potassium ferricyanide 13746-66-2 / 237-323-3	LD50	>2000 mg/kg	Dermal	Rat

Skin corrosion/irritation

Product / Substance name CAS / EC no.	Result	Species
Potassium ferricyanide 13746-66-2 / 237-323-3	No skin irritation.	Human

Serious eye damage/irritation

Product / Substance name CAS / EC no.	Result	Species
Potassium ferricyanide 13746-66-2 / 237-323-3	Causes serious eye irritation.	Rabbit

Respiratory or skin sensitisation

Product / Substance name CAS / EC no.	Result	Species	Method / Guideline
Potassium ferricyanide 13746-66-2 / 237-323-3	Negative.	Mouse	Local Lymph Node Assay

Germ cell mutagenicity

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
Issued: 2024-02-01
Replaces SDS: 2019-10-24



Product / Substance name CAS / EC no.	Result	Metabolic activation / Exposure	Species	Method / Guideline
Potassium ferricyanide 13746-66-2 / 237-323-3	Negative.	with and without meta- bolic activation	Salmonella typhimurium	Ames test

Carcinogenicity

Product / Substance name CAS / EC no.	Other
Potassium ferricyanide 13746-66-2 / 237-323-3	No evidence of carcinogenicity in animal studies

Aspiration hazard

Based on available data, the classification criteria are not met.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Acute fish toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Potassium ferricyanide 13746-66-2 / 237-323-3	LC50	>100 mg/l	96 hours	Cyprinus carpio (Com- mon carp)

Acute algae toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Potassium ferricyanide 13746-66-2 / 237-323-3	ErC50	3.1 mg/l	72 hours	Pseudokirchneriella sub- capitata

Acute crustacean toxicity

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



Product / Substance name CAS / EC no.	Measurement type	Value / Result	Duration of exposure	Species
Potassium ferricyanide 13746-66-2 / 237-323-3	EC50	59 mg/l	48 hours	Daphnia magna

Micro-/macro organism toxicity

Product / Substance name CAS / EC no.	Measurement type	Value / Result	Species
Potassium ferricyanide 13746-66-2 / 237-323-3	EC50	>1000 mg/l	Activated sludge.

12.2. Persistence and degradability

No data available

12.3. Bioaccumulative potential

No data available

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

No data available

12.6. Endocrine disrupting properties

This product does not contain any known or suspected endocrine disruptors.

12.7. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal considerations

Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

14.1. UN number

3077

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



14.2. UN proper shipping name

ADR / RID / ADN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Potassium ferricyanide)

IMDG proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Potassium ferricyanide)

IATA proper shipping name

Environmentally hazardous substance, solid, n.o.s. (Potassium ferricyanide)

14.3. Transport hazard class(es)

Label

ADR/RID/ADN



9

Environmental hazard



IMDG



9

IATA



9

Environmental hazard



ADR / RID Class

9

ADR / RID Classification code

M7

ADR / RID hazard identification number

90

IMDG Class

9

IATA Class

9

According to Regulation (EC) No 1907/2006

According to Regulation (EC) No 2020/878

Potassium ferricyanide

Version number: 2
 Issued: 2024-02-01
 Replaces SDS: 2019-10-24



ADN Class

9

ADN Class Code

M7

14.4. Packing group

ADR / RID / ADN: III

IMDG: III

IATA: III

14.5. Environmental hazards

ADR/RID/ADN: Hazardous for the environment

IMDG EmS

F-A, S-F

14.6. Special precautions for user

Tunnel restriction code: -

Transport category: 3

14.7. Maritime transport in bulk according to IMO instruments

IBC Instruction: IBC08

SECTION 15: Regulatory information

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

EU regulations

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

This material safety data sheet complies with the requirements of Regulation (EU) 2020/878.

National regulations

No data available

15.2. Chemical safety assessment

No data available

SECTION 16: Other information

Phrase meaning

Aquatic Chronic 2 - Hazardous to the aquatic environment — Chronic hazard category 2

Eye Irrit. 2 - Eye irritation, hazard category 2

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

EUH032 Contact with acids liberates very toxic gas.