

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

1 Identification

- **Product identifier**
- **Trade name:** POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION
- **Article number:** 25154-5, 26603-01
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
- Acute Tox. 4 H312 Harmful in contact with skin.
- Acute Tox. 4 H332 Harmful if inhaled.
- Eye Irrit. 2B H320 Causes eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**
Harmful if swallowed, in contact with skin or if inhaled.
Causes eye irritation.
- **Precautionary statements**
Avoid breathing dust/fume/gas/mist/vapors/spray
Wear protective gloves / protective clothing.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 1)

Specific treatment (see on this label).

If swallowed: Call a poison center/doctor if you feel unwell.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Store in a well-ventilated place. Keep container tightly closed.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

13746-66-2	tripotassium hexacyanoferrate	2.5-10%
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4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**

· **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 2)

- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
 - Dilute with plenty of water.
 - Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
 - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 - Ensure adequate ventilation.
- **Reference to other sections**
 - See Section 7 for information on safe handling.
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 - Ensure good ventilation/exhaustion at the workplace.
 - Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

· **Components with limit values that require monitoring at the workplace:**

13746-66-2 tripotassium hexacyanoferrate

PEL	Long-term value: 5 mg/m ³ as CN; Skin
REL	Long-term value: 1 mg/m ³ as Fe
TLV	Long-term value: 1 mg/m ³ as Fe

- **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 3)

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:

Liquid

Color:

Amber colored

- **Odor:**

Characteristic

- **Odour threshold:**

Not determined.

- **pH-value:**

Not determined.

- **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

100 °C (212 °F)

- **Flash point:**

Not applicable.

- **Flammability (solid, gaseous):**

Not flammable.

- **Ignition temperature:**

Decomposition temperature:

Not determined.

- **Auto igniting:**

Product is not selfigniting.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 4)

· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	23 hPa (17 mm Hg)
· Density at 20 °C (68 °F):	0.62 g/cm ³ (5.174 lbs/gal)
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Water:	95.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

(Contd. on page 6)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 5)

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety Health Administration)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**

· **DOT, ADR, IMDG, IATA** Void

· **UN proper shipping name**

· **DOT, ADR, IMDG, IATA** Void

· **Transport hazard class(es)**

· **DOT, ADR, IMDG, IATA**

· **Class** Void

· **Packing group**

· **DOT, ADR, IMDG, IATA** Void

· **Environmental hazards:**

· **Marine pollutant:** No

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 6)

· **Special precautions for user** Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **UN "Model Regulation":** -

15 Regulatory information

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

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

13746-66-2 | tripotassium hexacyanoferrate

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

13746-66-2 | tripotassium hexacyanoferrate

II

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard statements**

Harmful if swallowed, in contact with skin or if inhaled.

Causes eye irritation.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 7)

Wear protective gloves / protective clothing.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Specific treatment (see on this label).

If swallowed: Call a poison center/doctor if you feel unwell.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Store in a well-ventilated place. Keep container tightly closed.

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

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 10/29/2015 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Acute Tox. 4: Acute toxicity, Hazard Category 4

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

US

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

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

- **Product identifier**
- **Trade name:** POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION
- **Article number:** 25154-5, 26603-01
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- ProSciTech Pty Ltd
11 Carlton Street, Kirwan QLD 4817 Australia
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
- Emgrid Australia Pty. Ltd.
P.O. Box 118
The Patch VIC 3792
Australia
Tel: 03 9752 1785
Fax: 03 9752 1784
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazards identification

- **Classification of the substance or mixture**



GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
- Acute Tox. 4 H312 Harmful in contact with skin.
- Acute Tox. 4 H332 Harmful if inhaled.
- Eye Irrit. 2 H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS07

- **Signal word** Warning

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 1)

- **Hazard statements**

Harmful if swallowed, in contact with skin or if inhaled.

Causes serious eye irritation.

- **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear protective gloves / protective clothing.

Wear eye protection / face protection.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

IF ON SKIN: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Store in a well-ventilated place. Keep container tightly closed.

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

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterisation: Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

13746-66-2	tripotassium hexacyanoferrate	2.5-10%
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- **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

- **Description of first aid measures**

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.

- **After skin contact:** Generally the product does not irritate the skin.

- **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- **After swallowing:** If symptoms persist consult doctor.

- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed** No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

-AU-

(Contd. on page 3)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 2)

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

13746-66-2 tripotassium hexacyanoferrate

NES	Long-term value: 1 mg/m ³ as Fe
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- **Additional information:** The lists valid during the making were used as basis.

(Contd. on page 4)

AU

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 3)

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Colour:	Amber coloured
Odour:	Characteristic
Odour threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:**

Decomposition temperature: Not determined.

- **Self-igniting:** Product is not selfigniting.

(Contd. on page 5)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 4)

· Danger of explosion:	<i>Product does not present an explosion hazard.</i>
· Explosion limits:	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
· Vapour pressure at 20 °C:	<i>23 hPa</i>
· Density at 20 °C:	<i>0.62 g/cm³</i>
· Relative density	<i>Not determined.</i>
· Vapour density	<i>Not determined.</i>
· Evaporation rate	<i>Not determined.</i>
· Solubility in / Miscibility with water:	<i>Fully miscible.</i>
· Partition coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not determined.</i>
Kinematic:	<i>Not determined.</i>
· Solvent content:	
Organic solvents:	<i>0.0 %</i>
Water:	<i>95.0 %</i>
VOC (EC)	<i>0.00 %</i>
· Other information	<i>No further relevant information available.</i>

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *No dangerous reactions known.*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** *No irritant effect.*
- **Serious eye damage/irritation** *Irritating effect.*
- **Respiratory or skin sensitisation** *No sensitising effects known.*
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

AU

(Contd. on page 6)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 5)

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· UN-Number	
· ADG, ADN, IMDG, IATA	Void
· UN proper shipping name	
· ADG, ADN, IMDG, IATA	Void
· Transport hazard class(es)	
· ADG, ADN, IMDG, IATA	
· Class	Void
· Packing group	
· ADG, IMDG, IATA	Void
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	-

AU

(Contd. on page 7)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 6)

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard statements**

Harmful if swallowed, in contact with skin or if inhaled.

Causes serious eye irritation.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wear protective gloves / protective clothing.

Wear eye protection / face protection.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Specific treatment (see on this label).

IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

If eye irritation persists: Get medical advice/attention.

Rinse mouth.

IF ON SKIN: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

Store in a well-ventilated place. Keep container tightly closed.

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

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

(Contd. on page 8)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

VOC: Volatile Organic Compounds (USA, EU)
Acute Tox. 4: Acute toxicity, Hazard Category 4
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2

(Contd. of page 7)

AU

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

1 Identification

- **Product identifier**
- **Trade name:** POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION
- **Article number:** 25154-5, 26603-01
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
- Acute Tox. 4 H312 Harmful in contact with skin.
- Acute Tox. 4 H332 Harmful if inhaled.
-
- Eye Irrit. 2B H320 Causes eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Not applicable.



Irritant

Irritating to eyes.

- **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Code letter and hazard designation of product:**



Irritant

(Contd. on page 2)

CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 1)

· **Risk phrases:**

Irritating to eyes.

· **Safety phrases:**

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

This material and its container must be disposed of as hazardous waste.

· **Hazard description:**

· **WHMIS-symbols:**

D2B - Toxic material causing other toxic effects



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 1

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:** Void

4 First-aid measures

· **Description of first aid measures**

· **After inhalation:** Supply fresh air; consult doctor in case of complaints.

· **After skin contact:** Generally the product does not irritate the skin.

· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.

· **Information for doctor:**

· **Most important symptoms and effects, both acute and delayed** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

CA

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 2)

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.

(Contd. on page 4)

CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 3)

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Amber colored
Odor:	Characteristic
Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not flammable.

· **Ignition temperature:**

Decomposition temperature: Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

(Contd. on page 5)

CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 4)

· Vapor pressure at 20 °C:	23 hPa
· Density at 20 °C:	0.62 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
Water:	95.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety Health Administration)**

None of the ingredients is listed.

CA

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 5)

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

- | | |
|---|-----------------|
| <ul style="list-style-type: none"> · UN-Number · DOT, TDG, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT, TDG, ADN, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT, TDG, ADN, IMDG, IATA · Class | Void |
| <ul style="list-style-type: none"> · Packing group · DOT, TDG, IMDG, IATA | Void |
| <ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: | No |
| <ul style="list-style-type: none"> · Special precautions for user | Not applicable. |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| <ul style="list-style-type: none"> · UN "Model Regulation": | - |

CA

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 6)

15 Regulatory information

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

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

13746-66-2 | tripotassium hexacyanoferrate

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

13746-66-2 | tripotassium hexacyanoferrate

II

· **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 1%)**

None of the ingredients is listed.

· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**



Irritant

· **Risk phrases:**

Irritating to eyes.

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 10/29/2015

Reviewed on 10/29/2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 7)

· Safety phrases:

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

This material and its container must be disposed of as hazardous waste.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Date of preparation / last revision 10/29/2015 / -

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

Acute Tox. 4: Acute toxicity, Hazard Category 4

Eye Irrit. 2B: Serious eye damage/eye irritation, Hazard Category 2B

CA

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

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

- **1.1 Product identifier**
- **Trade name:** POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION
- **Article number:** 25154-5, 26603-01
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS07

- Acute Tox. 4 H302 Harmful if swallowed.
- Acute Tox. 4 H312 Harmful in contact with skin.
- Acute Tox. 4 H332 Harmful if inhaled.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS07

- **Signal word** Warning
- **Hazard statements**
H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.
- **Precautionary statements**
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P321 Specific treatment (see on this label).
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 1)

- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 13746-66-2	tripotassium hexacyanoferrate	2.5-10%
EINECS: 237-323-3	substance with a Community workplace exposure limit	

- **Additional information:** For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 3)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 2)

See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**

13746-66-2 tripotassium hexacyanoferrate

WEL	Long-term value: 5 mg/m ³ as CN; Sk
-----	---

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 4)

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: **POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION**

(Contd. of page 3)

· **Eye protection:**

Tightly sealed goggles

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**· **General Information**· **Appearance:**

· Form:	Liquid
· Colour:	Amber coloured
· Odour:	Characteristic
· Odour threshold:	Not determined.

· **pH-value:** Not determined.· **Change in condition**

· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	100 °C

· **Flash point:** Not applicable.· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:**· **Decomposition temperature:** Not determined.· **Self-igniting:** Product is not selfigniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Explosion limits:**

· Lower:	Not determined.
· Upper:	Not determined.

· **Vapour pressure at 20 °C:** 23 hPa

· Density at 20 °C:	0.62 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· **Solubility in / Miscibility with water:** Fully miscible.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

· Dynamic:	Not determined.
· Kinematic:	Not determined.

· **Solvent content:**

· Organic solvents:	0.0 %
· Water:	95.0 %
· VOC (EC)	0.00 %

(Contd. on page 5)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 4)

· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 6)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 29.10.2015

Revision: 29.10.2015

Trade name: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Contd. of page 5)

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- | | |
|---|-----------------|
| · 14.1 UN-Number
· ADR, ADN, IMDG, IATA | Void |
| · 14.2 UN proper shipping name
· ADR, ADN, IMDG, IATA | Void |
| · 14.3 Transport hazard class(es)
· ADR, ADN, IMDG, IATA
· Class | Void |
| · 14.4 Packing group
· ADR, IMDG, IATA | Void |
| · 14.5 Environmental hazards:
· Marine pollutant: | No |
| · 14.6 Special precautions for user | Not applicable. |
| · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation": | - |

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

Acute Tox. 4: Acute toxicity, Hazard Category 4

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.10.2015

Herziening van: 29.10.2015

RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

- **1.1 Productidentificatie**
- **Handelsnaam:** POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION
- **Artikelnummer:** 25154-5, 26603-01
- **1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik**
Geen verdere relevante informatie verkrijgbaar.
- **Toepassing van de stof / van de bereiding** Laboratoriumchemicaliën
- **1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad**
- **Fabrikant/leverancier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- Aurion
Binnenhaven 5
6709 PD Wageningen
The Netherlands
Tel: 31 317 415094
Fax: 31 317 415955
email: info@aurion.nl
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

RUBRIEK 2: Identificatie van de gevaren

- **2.1 Indeling van de stof of het mengsel**
- **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



GHS07

- Acute Tox. 4 H302 Schadelijk bij inslikken.
- Acute Tox. 4 H312 Schadelijk bij contact met de huid.
- Acute Tox. 4 H332 Schadelijk bij inademing.

- **2.2 Etiketteringselementen**
- **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**
Het product is geïdentificeerd en geëtiketteerd volgens de CLP-verordening.
- **Gevarenpictogrammen**



GHS07

- **Signaalwoord** Waarschuwing
- **Gevarenaanduidingen**
H302+H312+H332 Schadelijk bij inslikken, bij contact met de huid en bij inademing.

(Vervolg op blz. 2)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.10.2015

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Handelsnaam: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Vervolg van blz. 1)

· Veiligheidsaanbevelingen

- P261 Inademing van stof/rook/gas/nevel/damp/spuitnevel vermijden.
- P280 Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.
- P321 Specifieke behandeling vereist (zie op dit etiket).
- P301+P312 NA INSLIKKEN: bij onwel voelen een ANTIGIFCENTRUM/arts raadplegen.
- P304+P340 NA INADEMING: de persoon in de frisse lucht brengen en ervoor zorgen dat deze gemakkelijk kan ademen.
- P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

· 2.3 Andere gevaren

· Resultaten van PBT- en zPzB-beoordeling

- PBT: Niet bruikbaar.
- zPzB: Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

· 3.2 Chemische karakterisering: Mengsels

- Beschrijving: Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.

· Gevaarlijke inhoudstoffen:

CAS: 13746-66-2	trikaliumhexacyanoferraat	2,5-10%
EINECS: 237-323-3		

· Aanvullende gegevens:

De woordelijke inhoud van de opgegeven aanwijzingen inzake de mogelijke gevaren is te vinden in hoofdstuk 16.

RUBRIEK 4: Eerstehulpmaatregelen

· 4.1 Beschrijving van de eerstehulpmaatregelen

- Na het inademen: Frisse lucht toedienen; bij klachten arts ontbieden.
- Na huidcontact: Over het algemeen is het produkt niet prikkelend voor de huid
- Na oogcontact:
De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.
- Na inslikken: Als de klachten niet minderen, een arts raadplegen
- 4.2 Belangrijkste acute en uitgestelde symptomen en effecten Geen verdere relevante informatie verkrijgbaar.
- 4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling
Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

· 5.1 Blusmiddelen

· Geschikte blusmiddelen:

CO₂, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.

· 5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt

Geen verdere relevante informatie verkrijgbaar.

· 5.3 Advies voor brandweerlieden

- Speciale beschermende kleding: Geen bijzondere maatregelen nodig.

NL

(Vervolg op blz. 3)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.10.2015

Herziening van: 29.10.2015

Handelsnaam: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Vervolg van blz. 2)

RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures** Niet nodig.
- **6.2 Milieuvoorzorgsmaatregelen:**
Met veel water verdunnen.
Niet in de riolering/het oppervlaktewater/het grondwater laten terecht komen.
- **6.3 Insluitings- en reinigingsmethoden en -materiaal:**
Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.
Voor voldoende ventilatie zorgen.
- **6.4 Verwijzing naar andere rubrieken**
Informatie inzake veilig gebruik - zie hoofdstuk 7.
Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.
Informatie inzake berging - zie hoofdstuk 13.

RUBRIEK 7: Hantering en opslag

- **7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel**
Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.
Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:** Geen bijzondere maatregelen noodzakelijk.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.
- **8.1 Controleparameters**
- **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:**
Het produkt bevat geen relevante hoeveelheden van stoffen, die met betrekking tot de werkplaatsen, qua grenswaarden gecontroleerd moeten worden.
- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**
Verwijderd houden van eet- en drinkwaren.
Verontreinigde kleding onmiddellijk uittrekken.
Vóór de pauze en aan het einde van werktijd handen wassen.
Aanraking met de ogen vermijden.
Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:**
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingstoestel gebruiken.
- **Handbescherming:**
Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.

(Vervolg op blz. 4)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.10.2015

Herziening van: 29.10.2015

Handelsnaam: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Vervolg van blz. 3)

Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

· **Handschoenmateriaal**

De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmaterialen niet vooraf berekenbaar en moet derhalve vóór het gebruik worden getest.

· **Doordringingstijd van het handschoenmateriaal**

De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.

· **Oogbescherming:**



Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

· **9.1 Informatie over fysische en chemische basiseigenschappen**

· **Algemene gegevens**

· **Voorkomen:**

Vorm:	Vloeistof
Kleur:	Barnsteenkleurig
Reuk:	Karakteristiek
Geurdrempelwaarde:	Niet bepaald.

· **pH-waarde:** Niet bepaald.

· **Toestandsverandering**

Smeltpunt/smeltbereik:	Niet bepaald.
Kookpunt/kookpuntbereik:	100 °C

· **Vlampunt:** Niet bruikbaar.

· **Ontvlambaarheid (vast, gasvormig):** Niet bruikbaar.

· **Ontstekingstemperatuur:**

Ontbindingstemperatuur: Niet bepaald.

· **Zelfonsteking:** Het produkt ontbrandt niet uit zichzelf.

· **Ontploffingsgevaar:** Het produkt is niet ontploffingsgevaarlijk.

· **Ontploffingsgrenzen:**

Onderste:	Niet bepaald.
Bovenste:	Niet bepaald.

· **Dampspanning bij 20 °C:** 23 hPa

· Dichtheid bij 20 °C:	0,62 g/cm ³
· Relatieve dichtheid	Niet bepaald.
· Dampdichtheid	Niet bepaald.
· Verdampingssnelheid	Niet bepaald.

· **Oplosbaarheid in/mengbaarheid met**

Water: Volledig mengbaar.

· **Verdelingscoëfficiënt (n-octanol/water):** Niet bepaald.

(Vervolg op blz. 5)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.10.2015

Herziening van: 29.10.2015

Handelsnaam: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Vervolg van blz. 4)

- | | |
|---------------------------------|---|
| · Viscositeit | |
| Dynamisch: | Niet bepaald. |
| Kinematisch: | Niet bepaald. |
| · Oplosmiddelgehalte: | |
| Organisch oplosmiddel: | 0,0 % |
| Water: | 95,0 % |
| VOC (EG) | 0,00 % |
| · 9.2 Overige informatie | Geen verdere relevante informatie verkrijgbaar. |

RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit**
- **10.2 Chemische stabiliteit**
- **Thermische afbraak / te vermijden omstandigheden:** Geen afbraak bij gebruik volgens voorschrift.
- **10.3 Mogelijke gevaarlijke reacties** Geen gevaarlijke reacties bekend.
- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit**
- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Geen prikkelend effect.
- **Ernstig oogletsel/oogirritatie** Prikkeling
- **Sensibilisatie van de luchtwegen/de huid** Geen effect van overgevoeligheid bekend.
- **Aanvullende toxicologische informatie:**
Het produkt vertoont op grond van het berekeningsprocédé van de algemene classificatie-richtlijnen van de EG voor toebereidingen in de laatste geldige redactie de volgende gevaren:
Irriterend

RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL) 11: Weinig schadelijk voor water levende organismen.
Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water
Niet lozen in grondwater, in oppervlaktewater of in riolering.
Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

(Vervolg op blz. 6)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.10.2015

Herziening van: 29.10.2015

Handelsnaam: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Vervolg van blz. 5)

· **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terecht komen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

- | | |
|---|---------------------|
| · 14.1 VN-nummer | |
| · ADR, ADN, IMDG, IATA | Niet van toepassing |
| · 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN | |
| · ADR, ADN, IMDG, IATA | Niet van toepassing |
| · 14.3 Transportgevarenklasse(n) | |
| · ADR, ADN, IMDG, IATA | |
| · klasse | Niet van toepassing |
| · 14.4 Verpakkingsgroep: | |
| · ADR, IMDG, IATA | Niet van toepassing |
| · 14.5 Milieugevaren: | |
| · Marine pollutant: | Neen |
| · 14.6 Bijzondere voorzorgen voor de gebruiker | Niet bruikbaar. |
| · 14.7 Vervoer in bulk overeenkomstig bijlage II bij MARPOL 73/78 en de IBC-code | Niet bruikbaar. |
| · VN "Model Regulation": | - |

RUBRIEK 15: Regelgeving

· **15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel**

· **SZW-lijst van kankerverwekkende stoffen**
geen der bestanddelen staat op de lijst.

· **SZW-lijst van mutagene stoffen**
geen der bestanddelen staat op de lijst.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid**
geen der bestanddelen staat op de lijst.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling**
geen der bestanddelen staat op de lijst.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding**
geen der bestanddelen staat op de lijst.

(Vervolg op blz. 7)

Veiligheidsinformatieblad
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Handelsnaam: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Vervolg van blz. 6)

- **Richtlijn 2012/18/EU**
- **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** geen der bestanddelen staat op de lijst.
- **Nationale voorschriften:**
- **Gevaarklasse v. water:** Waterbezwaarlijkheid (NL) 11: Saneringsinspanning B
- **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

Afkortingen en acroniemen:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
Acute Tox. 4: Acute toxicity, Hazard Category 4

NL

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.10.2015

Révision: 29.10.2015

SECTION 1: Identification de la substance/du mélange et de la société/l'entreprise

- **1.1 Identificateur de produit**
- **Nom du produit:** POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION
- **Code du produit:** 25154-5, 26603-01
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECTION 2: Identification des dangers

- **2.1 Classification de la substance ou du mélange**
- **Classification selon le règlement (CE) n° 1272/2008**



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- Acute Tox. 4 H302 Nocif en cas d'ingestion.
- Acute Tox. 4 H312 Nocif par contact cutané.
- Acute Tox. 4 H332 Nocif par inhalation.

- **2.2 Éléments d'étiquetage**
- **Étiquetage selon le règlement (CE) n° 1272/2008** Le produit est classifié et étiqueté selon le règlement CLP.
- **Pictogrammes de danger**



GHS07

- **Mention d'avertissement** Attention
- **Mentions de danger**
H302+H312+H332 Nocif en cas d'ingestion, de contact cutané ou d'inhalation.
- **Conseils de prudence**
 - P261 Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
 - P280 Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.
 - P321 Traitement spécifique (voir sur cette étiquette).
 - P301+P312 EN CAS D'INGESTION: Appeler un CENTRE ANTIPOISON/un médecin en cas de malaise.
 - P304+P340 EN CAS D'INHALATION: transporter la personne à l'extérieur et la maintenir dans une position où elle peut confortablement respirer.
 - P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

(suite page 2)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.10.2015

Révision: 29.10.2015

Nom du produit: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(suite de la page 1)

- **2.3 Autres dangers**
- **Résultats des évaluations PBT et vPvB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.

SECTION 3: Composition/informations sur les composants

- **3.2 Caractérisation chimique: Mélanges**
- **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.

- **Composants dangereux:**

CAS: 13746-66-2	hexacyanoferrate de tripotassium	2,5-10%
EINECS: 237-323-3	substance pour laquelle il existe, en vertu des dispositions communautaires, des limites d'exposition sur le lieu de travail	

- **Indications complémentaires:** Pour le libellé des phrases de risque citées, se référer au chapitre 16.

SECTION 4: Premiers secours

- **4.1 Description des premiers secours**
- **Après inhalation:** Donner de l'air frais, consulter un médecin en cas de troubles.
- **Après contact avec la peau:** En règle générale, le produit n'irrite pas la peau.
- **Après contact avec les yeux:**
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières. Si les troubles persistent, consulter un médecin.
- **Après ingestion:** Si les troubles persistent, consulter un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**
Pas d'autres informations importantes disponibles.

SECTION 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:**
CO₂, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Aucune mesure particulière n'est requise.

SECTION 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence** Pas nécessaire.
- **6.2 Précautions pour la protection de l'environnement:**
Diluer avec beaucoup d'eau.
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).
Assurer une aération suffisante.

(suite page 3)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.10.2015

Révision: 29.10.2015

Nom du produit: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(suite de la page 2)

· **6.4 Référence à d'autres sections**

Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.

Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.

Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

SECTION 7: Manipulation et stockage

· **7.1 Précautions à prendre pour une manipulation sans danger**

Veiller à une bonne ventilation/aspiration du poste de travail.

Eviter la formation d'aérosols.

· **Préventions des incendies et des explosions:** Aucune mesure particulière n'est requise.

· **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**

· **Stockage:**

· **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.

· **Indications concernant le stockage commun:** Pas nécessaire.

· **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.

· **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

SECTION 8: Contrôles de l'exposition/protection individuelle

· **Indications complémentaires pour l'agencement des installations techniques:**

Sans autre indication, voir point 7.

· **8.1 Paramètres de contrôle**

· **Composants présentant des valeurs-seuil à surveiller par poste de travail:**

13746-66-2 hexacyanoferrate de tripotassium

VME	Valeur à long terme: 5 mg/m ³ en Cn
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· **Remarques supplémentaires:**

Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

· **8.2 Contrôles de l'exposition**

· **Équipement de protection individuel:**

· **Mesures générales de protection et d'hygiène:**

Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Retirer immédiatement les vêtements souillés ou humectés.

Se laver les mains avant les pauses et en fin de travail.

Eviter tout contact avec les yeux.

Eviter tout contact avec les yeux et avec la peau.

· **Protection respiratoire:**

En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

· **Protection des mains:**

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.

À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

· **Matériau des gants**

Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation composée de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit, alors, être contrôlée avant l'utilisation.

(suite page 4)

Fiche de données de sécurité
selon 1907/2006/CE, Article 31

Date d'impression : 29.10.2015

Révision: 29.10.2015

Nom du produit: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(suite de la page 3)

- **Temps de pénétration du matériau des gants**
Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.
- **Protection des yeux:**



Lunettes de protection hermétiques

SECTION 9: Propriétés physiques et chimiques

· 9.1 Informations sur les propriétés physiques et chimiques essentielles

· Indications générales

· Aspect:

Forme:	Liquide
Couleur:	Ambré
Odeur:	Caractéristique
Seuil olfactif:	Non déterminé.

· valeur du pH: Non déterminé.

· Changement d'état

Point de fusion:	Non déterminé.
Point d'ébullition:	100 °C

· Point d'éclair Non applicable.

· Inflammabilité (solide, gazeux): Non applicable.

· Température d'inflammation:

Température de décomposition: Non déterminé.

· Auto-inflammation: Le produit ne s'enflamme pas spontanément.

· Danger d'explosion: Le produit n'est pas explosif.

· Limites d'explosion:

Inférieure:	Non déterminé.
Supérieure:	Non déterminé.

· Pression de vapeur à 20 °C: 23 hPa

Densité à 20 °C:	0,62 g/cm ³
Densité relative	Non déterminé.
Densité de vapeur.	Non déterminé.
Vitesse d'évaporation	Non déterminé.

· Solubilité dans/miscibilité avec l'eau:

Entièrement miscible

· Coefficient de partage (n-octanol/eau): Non déterminé.

· Viscosité:

Dynamique:	Non déterminé.
Cinématique:	Non déterminé.

· Teneur en solvants:

Solvants organiques:	0,0 %
Eau:	95,0 %

(suite page 5)

FR

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.10.2015

Révision: 29.10.2015

Nom du produit: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(suite de la page 4)

VOC (CE)	0,00 %
· 9.2 Autres informations	Pas d'autres informations importantes disponibles.

SECTION 10: Stabilité et réactivité

- **10.1 Réactivité**
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

SECTION 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**
- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée** Pas d'effet d'irritation.
- **Lésions oculaires graves/irritation oculaire** Effet d'irritation.
- **Sensibilisation respiratoire ou cutanée** Aucun effet de sensibilisation connu.
- **Indications toxicologiques complémentaires:**
Selon le procédé de calcul de la dernière version en vigueur de la directive générale CEE sur la classification des préparations, le produit présente les dangers suivants:
Irritant

SECTION 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Autres indications écologiques:**
- **Indications générales:**
Catégorie de pollution des eaux 2 (D) (Classification propre): polluant
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.
Danger pour l'eau potable dès fuite d'une petite quantité dans le sous-sol.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

SECTION 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.

(suite page 6)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.10.2015

Révision: 29.10.2015

Nom du produit: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(suite de la page 5)

- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.
- **Produit de nettoyage recommandé:** Eau, éventuellement avec des produits de nettoyage

SECTION 14: Informations relatives au transport

- | | |
|--|-----------------|
| · 14.1 No ONU
· ADR, ADN, IMDG, IATA | néant |
| · 14.2 Nom d'expédition des Nations unies
· ADR, ADN, IMDG, IATA | néant |
| · 14.3 Classe(s) de danger pour le transport
· ADR, ADN, IMDG, IATA
· Classe | néant |
| · 14.4 Groupe d'emballage
· ADR, IMDG, IATA | néant |
| · 14.5 Dangers pour l'environnement:
· Marine Polluant: | Non |
| · 14.6 Précautions particulières à prendre par l'utilisateur | Non applicable. |
| · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC | Non applicable. |
| · "Règlement type" de l'ONU: | - |

SECTION 15: Informations réglementaires

- **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
- **Directive 2012/18/UE**
- **Substances dangereuses désignées - ANNEXE I** Aucun des composants n'est compris.
- **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

SECTION 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

- **Acronymes et abréviations:**
 ADR: Accord européen sur le transport des marchandises dangereuses par Route
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 VOC: Volatile Organic Compounds (USA, EU)
 Acute Tox. 4: Acute toxicity, Hazard Category 4

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.10.2015

überarbeitet am: 29.10.2015

ABSCHNITT 1: Bezeichnung des Stoffs bzw. des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION
- **Artikelnummer:** 25154-5, 26603-01
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com

Science Services GmbH
Unterhachinger Str. 75
81737 München Germany
Tel: +49(0)89 18 93 668-0
safety@scienceservices.de

24h Giftnotruf Munchen: +49 (0)89 19240
Toxikologische Abteilung der II. Medizinischen Klinik
rechts der Isar, Munchen. - www.toxinfo.org
- **Auskunftgebender Bereich:** Product safety department
- **1.4 Notrufnummer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ABSCHNITT 2: Mögliche Gefahren

- **2.1 Einstufung des Stoffs oder Gemischs**
- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS07

Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.

Acute Tox. 4 H312 Gesundheitsschädlich bei Hautkontakt.

Acute Tox. 4 H332 Gesundheitsschädlich bei Einatmen.

- **2.2 Kennzeichnungselemente**
- **Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008**
Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.
- **Gefahrenpiktogramme**



GHS07

- **Signalwort** Achtung

(Fortsetzung auf Seite 2)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.10.2015

überarbeitet am: 29.10.2015

Handelsname: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Fortsetzung von Seite 1)

- **Gefahrenhinweise**
H302+H312+H332 *Gesundheitsschädlich bei Verschlucken, Hautkontakt oder Einatmen.*
- **Sicherheitshinweise**
P261 *Einatmen von Staub/Rauch/Gas/Nebel/Dampf/Aerosol vermeiden.*
P280 *Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.*
P321 *Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).*
P301+P312 *BEI VERSCHLUCKEN: Bei Unwohlsein GIFTINFORMATIONSZENTRUM/Arzt anrufen.*
P304+P340 *BEI EINATMEN: Die Person an die frische Luft bringen und für ungehinderte Atmung sorgen.*
P501 *Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.*
- **2.3 Sonstige Gefahren**
- **Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

- **3.2 Chemische Charakterisierung: Gemische**
- **Beschreibung:** Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

- **Gefährliche Inhaltsstoffe:**

CAS: 13746-66-2	Ferricyankalium	2,5-10%
EINECS: 237-323-3	Stoff, für den ein gemeinschaftlicher Grenzwert für die Exposition am Arbeitsplatz gilt	

- **Zusätzliche Hinweise:** Der Wortlaut der angeführten Gefahrenhinweise ist dem Abschnitt 16 zu entnehmen.

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

- **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**
- **Nach Einatmen:** Frischluftzufuhr, bei Beschwerden Arzt aufsuchen.
- **Nach Hautkontakt:** Im allgemeinen ist das Produkt nicht hautreizend.
- **Nach Augenkontakt:**
Augen mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.
- **Nach Verschlucken:** Bei anhaltenden Beschwerden Arzt konsultieren.
- **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**
Keine weiteren relevanten Informationen verfügbar.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**
Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:**
CO₂, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.

(Fortsetzung auf Seite 3)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.10.2015

überarbeitet am: 29.10.2015

Handelsname: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Fortsetzung von Seite 2)

- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Keine besonderen Maßnahmen erforderlich.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Nicht erforderlich.
- **6.2 Umweltschutzmaßnahmen:**
Mit viel Wasser verdünnen.
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**
Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.
Für ausreichende Lüftung sorgen.
- **6.4 Verweis auf andere Abschnitte**
Informationen zur sicheren Handhabung siehe Abschnitt 7.
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
Informationen zur Entsorgung siehe Abschnitt 13.

ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:** Keine besonderen Maßnahmen erforderlich.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:** Behälter dicht geschlossen halten.
- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** -
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.

· 8.1 Zu überwachende Parameter

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

13746-66-2 Ferricyanalkalium

MAK	Langzeitwert: 2E mg/m ³ als CN
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- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

· 8.2 Begrenzung und Überwachung der Exposition

- **Persönliche Schutzausrüstung:**
- **Allgemeine Schutz- und Hygienemaßnahmen:**
Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.
Beschmutzte, getränkte Kleidung sofort ausziehen.
Vor den Pausen und bei Arbeitsende Hände waschen.

(Fortsetzung auf Seite 4)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.10.2015

überarbeitet am: 29.10.2015

Handelsname: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Fortsetzung von Seite 3)

Berührung mit den Augen vermeiden.

Berührung mit den Augen und der Haut vermeiden.

· **Atemschutz:**

Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition unluftunabhängiges Atemschutzgerät verwenden.

· **Handschutz:**

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein.

Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

· **Handschuhmaterial**

Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.

· **Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

· **Augenschutz:**



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

· **9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**

· **Allgemeine Angaben**

· **Aussehen:**

Form: Flüssigkeit

Farbe: Bernsteinfarben

· **Geruch:** Charakteristisch

· **Geruchsschwelle:** Nicht bestimmt.

· **pH-Wert:** Nicht bestimmt.

· **Zustandsänderung**

Schmelzpunkt/Schmelzbereich: Nicht bestimmt.

Siedepunkt/Siedebereich: 100 °C

· **Flammpunkt:** Nicht anwendbar.

· **Entzündlichkeit (fest, gasförmig):** Nicht anwendbar.

· **Zündtemperatur:**

Zersetzungstemperatur: Nicht bestimmt.

· **Selbstentzündlichkeit:** Das Produkt ist nicht selbstentzündlich.

· **Explosionsgefahr:** Das Produkt ist nicht explosionsgefährlich.

· **Explosionsgrenzen:**

Untere: Nicht bestimmt.

Obere: Nicht bestimmt.

(Fortsetzung auf Seite 5)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.10.2015

überarbeitet am: 29.10.2015

Handelsname: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Fortsetzung von Seite 4)

· Dampfdruck bei 20 °C:	23 hPa
· Dichte bei 20 °C:	0,62 g/cm ³
· Relative Dichte	Nicht bestimmt.
· Dampfdichte	Nicht bestimmt.
· Verdampfungsgeschwindigkeit	Nicht bestimmt.
· Löslichkeit in / Mischbarkeit mit Wasser:	Vollständig mischbar.
· Verteilungskoeffizient (n-Octanol/Wasser):	Nicht bestimmt.
· Viskosität:	
Dynamisch:	Nicht bestimmt.
Kinematisch:	Nicht bestimmt.
· Lösemittelgehalt:	
Organische Lösemittel:	0,0 %
Wasser:	95,0 %
VOC (EU)	0,00 %
· 9.2 Sonstige Angaben	Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität**
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
- **10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität**
- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Keine Reizwirkung.
- **Schwere Augenschädigung/-reizung** Reizwirkung.
- **Sensibilisierung der Atemwege/Haut** Keine sensibilisierende Wirkung bekannt.
- **Zusätzliche toxikologische Hinweise:**
Das Produkt weist aufgrund des Berechnungsverfahrens der Allgemeinen Einstufungsrichtlinie der EG für Zubereitungen in der letztgültigen Fassung folgende Gefahren auf:
Reizend

ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.

(Fortsetzung auf Seite 6)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.10.2015

überarbeitet am: 29.10.2015

Handelsname: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Fortsetzung von Seite 5)

- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Wassergefährdungsklasse 2 (Selbsteinstufung): wassergefährdend
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.
Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

ABSCHNITT 14: Angaben zum Transport

- | | |
|---|------------------|
| · 14.1 UN-Nummer | |
| · ADR, ADN, IMDG, IATA | entfällt |
| · 14.2 Ordnungsgemäße UN-Versandbezeichnung | |
| · ADR, ADN, IMDG, IATA | entfällt |
| · 14.3 Transportgefahrenklassen | |
| · ADR, ADN, IMDG, IATA | |
| · Klasse | entfällt |
| · 14.4 Verpackungsgruppe | |
| · ADR, IMDG, IATA | entfällt |
| · 14.5 Umweltgefahren: | |
| · Marine pollutant: | Nein |
| · 14.6 Besondere Vorsichtsmaßnahmen für den Verwender | Nicht anwendbar. |
| · 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens 73/78 und gemäß IBC-Code | Nicht anwendbar. |
| · UN "Model Regulation": | - |

ABSCHNITT 15: Rechtsvorschriften

- **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- **Richtlinie 2012/18/EU**
- **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.

(Fortsetzung auf Seite 7)

Sicherheitsdatenblatt
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(Fortsetzung von Seite 6)

- **Nationale Vorschriften:**
- **Wassergefährdungsklasse: WGK 2 (Selbsteinstufung):** wassergefährdend.
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

- **Abkürzungen und Akronyme:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

Acute Tox. 4: Acute toxicity, Hazard Category 4

DE

Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 29.10.2015

Revisione: 29.10.2015

SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

· **Articolo numero:** 25154-5, 26603-01

· **1.2 Usi pertinenti identificati della sostanza o miscela e usi sconsigliati** Non sono disponibili altre informazioni.

· **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio

· **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: sgkcck@aol.com

www.emsdiasum.com

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: www.sichim.com

· **Informazioni fornite da:** Product safety department

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

SEZIONE 2: Identificazione dei pericoli

· **2.1 Classificazione della sostanza o della miscela**

· **Classificazione secondo il regolamento (CE) n. 1272/2008**



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Acute Tox. 4 H302 Nocivo se ingerito.

Acute Tox. 4 H312 Nocivo per contatto con la pelle.

Acute Tox. 4 H332 Nocivo se inalato.

· **2.2 Elementi dell'etichetta**

· **Etichettatura secondo il regolamento (CE) n. 1272/2008**

Il prodotto è classificato ed etichettato conformemente al regolamento CLP.

· **Pittogrammi di pericolo**



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· **Avvertenza** Attenzione

· **Indicazioni di pericolo**

H302+H312+H332 Nocivo se ingerito, a contatto con la pelle o se inalato.

· **Consigli di prudenza**

P261 Evitare di respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.

P280 Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.

(continua a pagina 2)

Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 29.10.2015

Revisione: 29.10.2015

Denominazione commerciale: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Segue da pagina 1)

- P321 *Trattamento specifico (vedere su questa etichetta).*
 P301+P312 *IN CASO DI INGESTIONE: contattare un CENTRO ANTIVELENI/un medico in caso di malessere.*
 P304+P340 *IN CASO DI INALAZIONE: trasportare l'infortunato all'aria aperta e mantenerlo a riposo in posizione che favorisca la respirazione.*
 P501 *Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.*
- **2.3 Altri pericoli**
 - **Risultati della valutazione PBT e vPvB**
 - **PBT:** Non applicabile.
 - **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

- **3.2 Caratteristiche chimiche: Miscela**
- **Descrizione:** Miscela delle seguenti sostanze con additivi non pericolosi.
- **Sostanze pericolose:** non applicabile
- **Ulteriori indicazioni:** Il testo dell'avvertenza dei pericoli citati può essere appreso dal capitolo 16

SEZIONE 4: Misure di primo soccorso

- **4.1 Descrizione delle misure di primo soccorso**
- **Inalazione:** Portare in zona ben areata, in caso di disturbi consultare il medico.
- **Contatto con la pelle:** Generalmente il prodotto non è irritante per la pelle.
- **Contatto con gli occhi:**
Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte Se persiste il dolore consultare il medico.
- **Ingestione:** Se il dolore persiste consultare il medico.
- **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.
- **4.3 Indicazione della eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**
Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:**
CO₂, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.
- **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
- **Mezzi protettivi specifici:** Non sono richiesti provvedimenti particolari.

SEZIONE 6: Misure in caso di rilascio accidentale

- **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza** Non necessario.
- **6.2 Precauzioni ambientali:**
Diluire abbondantemente con acqua.
Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**
Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).
Provvedere ad una sufficiente areazione.

(continua a pagina 3)

Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 29.10.2015

Revisione: 29.10.2015

Denominazione commerciale: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Segue da pagina 2)

· 6.4 Riferimento ad altre sezioni

Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.

Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.

Per informazioni relative allo smaltimento vedere Capitolo 13.

SEZIONE 7: Manipolazione e immagazzinamento

· 7.1 Precauzioni per la manipolazione sicura

Accurata ventilazione/aspirazione nei luoghi di lavoro.

Evitare la formazione di aerosol.

· Indicazioni in caso di incendio ed esplosione: *Non sono richiesti provvedimenti particolari.*

· 7.2 Condizioni per l'immagazzinamento sicuro, comprese eventuali incompatibilità

· Stoccaggio:

· Requisiti dei magazzini e dei recipienti: *Non sono richiesti requisiti particolari.*

· Indicazioni sullo stoccaggio misto: *Non necessario.*

· Ulteriori indicazioni relative alle condizioni di immagazzinamento: *Mantenere i recipienti ermeticamente chiusi.*

· 7.3 Usi finali specifici *Non sono disponibili altre informazioni.*

SEZIONE 8: Controllo dell'esposizione/protezione individuale

· Ulteriori indicazioni sulla struttura di impianti tecnici: *Nessun dato ulteriore, vedere punto 7.*

· 8.1 Parametri di controllo

· Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:

Il prodotto non contiene quantità rilevanti di sostanze i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro.

· Ulteriori indicazioni: *Le liste valide alla data di compilazione sono state usate come base.*

· 8.2 Controlli dell'esposizione

· Mezzi protettivi individuali:

· Norme generali protettive e di igiene del lavoro:

Tenere lontano da cibo, bevande e foraggi.

Togliere immediatamente gli abiti contaminati.

Lavarsi le mani prima dell'intervallo o a lavoro terminato.

Evitare il contatto con gli occhi.

Evitare il contatto con gli occhi e la pelle.

· Maschera protettiva:

Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.

· Guanti protettivi:

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.

A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.

Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

· Materiale dei guanti

La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro. Poiché il prodotto rappresenta una formulazione di più sostanze, la stabilità dei materiali dei guanti non è calcolabile in anticipo e deve essere testata prima dell'impiego

· Tempo di permeazione del materiale dei guanti

Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.

(continua a pagina 4)

Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 29.10.2015

Revisione: 29.10.2015

Denominazione commerciale: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Segue da pagina 3)

· Occhiali protettivi:



Occhiali protettivi a tenuta

SEZIONE 9: Proprietà fisiche e chimiche

· 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali

· Indicazioni generali

· Aspetto:

Forma: Liquido

Colore: Ambra

· **Odore:** Caratteristico

· **Soglia olfattiva:** Non definito.

· **valori di pH:** Non definito.

· Cambiamento di stato

Temperatura di fusione/ambito di fusione: Non definito.

Temperatura di ebollizione/ambito di ebollizione: 100 °C

· **Punto di infiammabilità:** Non applicabile.

· **Infiammabilità (solido, gassoso):** Non applicabile.

· Temperatura di accensione:

Temperatura di decomposizione: Non definito.

· **Autoaccensione:** Prodotto non autoinfiammabile.

· **Pericolo di esplosione:** Prodotto non esplosivo.

· Limiti di infiammabilità:

Inferiore: Non definito.

Superiore: Non definito.

· **Tensione di vapore a 20 °C:** 23 hPa

· **Densità a 20 °C:** 0,62 g/cm³

· **Densità relativa** Non definito.

· **Densità del vapore** Non definito.

· **Velocità di evaporazione** Non definito.

· Solubilità in/Miscibilità con acqua:

Completamente miscibile.

· **Coefficiente di distribuzione (n-Octanol/acqua):** Non definito.

· Viscosità:

Dinamica: Non definito.

Cinematica: Non definito.

· Tenore del solvente:

Solventi organici: 0,0 %

Acqua: 95,0 %

VOC (CE) 0,00 %

(continua a pagina 5)

Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 29.10.2015

Revisione: 29.10.2015

Denominazione commerciale: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Segue da pagina 4)

· 9.2 Altre informazioni

Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

- 10.1 Reattività
- 10.2 Stabilità chimica
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- 10.3 Possibilità di reazioni pericolose Non sono note reazioni pericolose.
- 10.4 Condizioni da evitare Non sono disponibili altre informazioni.
- 10.5 Materiali incompatibili: Non sono disponibili altre informazioni.
- 10.6 Prodotti di decomposizione pericolosi: Non sono noti prodotti di decomposizione pericolosi.

SEZIONE 11: Informazioni tossicologiche

- 11.1 Informazioni sugli effetti tossicologici
- Tossicità acuta
- Irritabilità primaria:
- **Corrosione/irritazione cutanea** Non ha effetti irritanti.
- **Lesioni oculari gravi/irritazioni oculari gravi** Irritante.
- **Sensibilizzazione respiratoria o cutanea** Non si conoscono effetti sensibilizzanti.
- **Ulteriori dati tossicologici:**
Il prodotto, in base al metodo di calcolo della direttiva generale della Comunità sulla classificazione dei preparati nella sua ultima versione valida, presenta i seguenti rischi:
Irritante

SEZIONE 12: Informazioni ecologiche

- 12.1 Tossicità
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- 12.2 **Persistenza e degradabilità** Non sono disponibili altre informazioni.
- 12.3 **Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- 12.4 **Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
Pericolosità per le acque classe 2 (D) (Autoclassificazione): pericoloso
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.
- 12.5 **Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- 12.6 **Altri effetti avversi** Non sono disponibili altre informazioni.

SEZIONE 13: Considerazioni sullo smaltimento

- 13.1 **Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

(continua a pagina 6)

Scheda di dati di sicurezza
ai sensi del regolamento 1907/2006/CE, Articolo 31

Stampato il: 29.10.2015

Revisione: 29.10.2015

Denominazione commerciale: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(Segue da pagina 5)

· **Detergente consigliato:** Acqua eventualmente con l'aggiunta di detersivi.

SEZIONE 14: Informazioni sul trasporto

· 14.1 Numero ONU · ADR, ADN, IMDG, IATA	<i>non applicabile</i>
· 14.2 Nome di spedizione dell'ONU · ADR, ADN, IMDG, IATA	<i>non applicabile</i>
· 14.3 Classi di pericolo connesso al trasporto · ADR, ADN, IMDG, IATA · Classe	<i>non applicabile</i>
· 14.4 Gruppo di imballaggio · ADR, IMDG, IATA	<i>non applicabile</i>
· 14.5 Pericoli per l'ambiente: · Marine pollutant:	<i>No</i>
· 14.6 Precauzioni speciali per gli utilizzatori	<i>Non applicabile.</i>
· 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL 73/78 ed il codice IBC	<i>Non applicabile.</i>
· UN "Model Regulation":	<i>-</i>

SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Norme e legislazione su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**
- **Direttiva 2012/18/UE**
- **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.
- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

SEZIONE 16: Altre informazioni

I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.

· **Abbreviazioni e acronimi:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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Acute Tox. 4: Acute toxicity, Hazard Category 4

안전지침서

제31조의 1907/2006/EC에 따라

기압점: 2015.10.29

개정: 2015.10.29

1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION**
- **상품번호:** 25154-5, 26603-01
- **해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도** 추가적인 정보가 존재하지 않습니다.
- **제품의 권고 용도와 사용상의 제한:** 실험실 화학품
- **안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보**
- **제조자/수입자/유통업자 정보:**
 Electron Microscopy Sciences
 1560 Industry Road
 USA-Hatfield, PA 19440
 Tel: 215-412-8400 Fax: 215-412-8450
 email: sgkcck@aol.com
 www.emsdiasum.com
- **Samchang Commercial Co., Ltd.**
 Yeo Eui Do
 PO Box 1110
 Seoul, Korea
 Tel: 82 2 703 3040
 Fax: 82 2 717 3298
- **추가적인 정보 획득 가능:** Product safety department
- **비상연락 전화번호:**
 ChemTrec 1-800-424-9300 Contract CCN7661
 1-703-527-3887

2 유해성.위험성

- **순물질 또는 혼합물의 분류**



심한 눈 손상/자극성 구분2 H319 눈에 심한 자극을 일으킴

- **라벨표기 요소**
- **GHS 라벨 요소**
 본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.
- **그림문자**



GHS07

- **신호어 경고**
- **유해.위험 문구**
 눈에 심한 자극을 일으킴
- **예방조치 문구**
 (보호장갑·보호의·보안경·안면보호구)를(을) 착용하시오.
 취급 후에는 취급 부위를 철저히 씻으시오.
 눈에 물으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하시오. 계속 씻으시오.
 눈에 자극이 지속되면 의학적인 조치·조언을 구하시오.
 용기는 환기가 잘 되는 곳에 단단히 밀폐하여 저장하시오.
 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

(2 쪽에 계속)

안전지침서

제31조의 1907/2006/EC에 따라

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제품명: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(1 쪽부터계속)

- 기타 유해성
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.

3 구성성분의 명칭 및 함유량

- 화학적 특성: 혼합물
- 설명: 무해한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

· 위험요소:

13746-66-2 tripotassium hexacyanoferrate

2.5-10%

4 응급조치 요령

- 응급조치요령 내용
- 흡입했을 때: 신선한 공기를 쉼, 통증이 있을 때는 의료진의 도움을 구한다.
- 피부에 접촉했을 때: 일반적으로 이 제품은 피부에 자극적이지 않다.
- 눈에 들어갔을 때: 흐르는 물에 눈을 몇분동안 씻어내고나서, 증상이 지속될 경우에는 의사와 상담한다.
- 먹었을 때: 증상이 지속될 경우에는 의사와 상담한다.
- 기타 의사의 주의사항:
- 가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.
- 즉각적인 의료처리 및 특별치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

- 소화제
- 적절한 소화제:
- 이산화탄소, 진화용 석회가루 또는 물방사를 사용하고, 더 큰 화재는 물을 분사하거나 알코올이 함유된 거품으로 끈다.
- 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
- 소방관에 대한 권고사항
- 화재 진압 시 착용할 보호구 및 예방조치: 특별한 조치가 필요없음.

6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처리 절차 필요없음.
- 환경 관련 예방조치:
- 많은 물로 희석 시킨다.
- 하수도망/해수면위의물/지하수로도달하지않게한다.
- 밀폐 및 정화 방법과 소재:
- 액체가 혼합된 물질(모래, 구조토, 산성결합물, 일반결합물, 톱밥)에 흡입되도록 한다.
- 충분한 환기가 되도록 한다.
- 타 섹션 참조
- 안전관리에 대한 정보는 제7장을 참고하십시오.
- 개인보호장비에 대한 정보는 제8장을 참고하십시오.
- 쓰레기처리에 대한 정보는 제13장을 참고하십시오.

KR

(3 쪽에계속)

안전지침서

제31조의 1907/2006/EC에 따라

기압점: 2015.10.29

개정: 2015.10.29

제품명: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(2 쪽부터 계속)

7 취급 및 저장방법

- 취급:
 - 안전 취급을 위한 예방조치
작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.
연무질이 형성되는 것을 피한다.
- 화재 및 폭발 사고 예방대책에 관한 정보: 특별한 조치가 필요없음.
- 혼합위험성 등 안전 저장 조건
- 보관:
 - 안전한 저장 방법: 특별한 요구사항이 없음.
 - 하나의 공동 보관 시설에 대한 보관 관련 정보: 필요없음
 - 보관 조건에 관한 추가적인 정보: 용기를 새지 않게 밀폐한 채 보관한다.
 - 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이상 의 자료는 없음. 항목 7 을 참고하시 오.

· 통제 변수

- 화학물질의 노출기준, 생물학적 노출기준 등:

13746-66-2 tripotassium hexacyanoferrate

TLV (ROK)	장기간의값: 1 mg/m ³
PEL (USA)	장기간의값: 5 mg/m ³ as CN; Skin
REL (USA)	장기간의값: 1 mg/m ³ as Fe
TLV (USA)	장기간의값: 1 mg/m ³ as Fe

- 추가 정보: 제조할 당시에 유효한 목록을 기초로 사용했다.

· 노출 통제

· 개인 보호구

· 일반적보호조치및위생조치:

- 식료품, 음료수와 사료로부터 멀리 떨어져 두어 놓는다.
- 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
- 휴식 전 이나 작업이 끝날 때 마다 손을 씻는다.
- 눈과의 접촉을 피한다.
- 눈과 피부와의 접촉을 피한다.

· 호흡기 보호:

- 단 시간 또는 경미한 오염의 경우에는 호흡 여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡보호장비를 사용한다.

· 손 보호:

- 장갑재질은 제품 / 원료 / 조제를 통과시키지 않아야 하고, 내구성이 있어야 한다.
- 테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.
- 투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

· 장갑의 재료

- 적합한 장갑의 선정은 재질 차이뿐만 아니라 품질 기준의 차이도 고려하여 이루어져야 하고 제조업종에 따라서도 다르게 선정되어야 한다. 제품은 다양한 재료로부터의 조제가 이루어지는 것이기 때문에, 장갑재질의 안정성은 사전에 예측되어질 수 있는 것이 아니고, 반드시 사용 전에 (그 안전성이) 체크되어야 한다.

- 장갑 재료의 투과 시간: 정확한 관통 시간은 보호장갑 제조자에 의 하여 인 지 되고, 준수 되어야 한다.

(4 쪽에 계속)

안전지침서

제31조의 1907/2006/EC에 따라

기압점: 2015.10.29

개정: 2015.10.29

제품명: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

· 눈 보호:

(3 쪽부터계속)



· 팍조이는보안경

9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보	
· 일반정보	
· 외형	
· 물리적 상태:	액체
· 색:	호박색
· 냄새:	특색있는
· 후각역치	알맞지않다.
· pH:	알맞지않다.
· 상태변화	
· 녹는점/어는점:	맞지않는
· 초기 끓는점과 끓는점 범위:	100 °C
· 인화점:	해당사항 없음.
· 인화성(고체, 기체):	해당사항 없음.
· 점화온도:	
· 분해 온도:	알맞지않다.
· 자기점화:	이제품은자연발화성이없다.
· 폭발위험:	이제품은폭발위험성이없다
· 인화 또는 폭발 범위의 상한/하한	
· 아래로:	알맞지않다.
· 위로:	알맞지않다.
· 증기압 의경우 20 °C:	23 hPa
· 밀도 의경우 20 °C:	0.62 g/cm ³
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도:	
· 물:	완전히혼합할수있는
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
· 역학성:	알맞지않다.
· 동점성:	알맞지않다.
· 용매내용물	
· 유기용매:	0.0 %
· 물:	95.0 %
· VOC (EU)	0.00 %

(5 쪽에계속)

안전지침서

제31조의 1907/2006/EC에 따라

기압점: 2015.10.29

개정: 2015.10.29

제품명: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(5 쪽부터계속)

- 비위생적 포장:
- 권고: 당국의지침에입각한쓰레기처리.
- 추천 세정제: 경우에따라서세제가첨가된물

14 운송에 필요한 정보

· 유엔 번호 · ADR, ADN, IMDG, IATA	누락되다
· UN 적정 선적명 · ADR, ADN, IMDG, IATA	누락되다
· 교통 위험 클래스 · ADR, ADN, IMDG, IATA · 등급	누락되다
· 용기등급 · ADR, IMDG, IATA	누락되다
· 환경적 유해물질: · 해양오염물질:	아니오
· 이용자 특별 예방조치	해당사항 없음.
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.
· UN "모범 규제":	-

15 법적 규제현황

- 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory		
13746-66-2	tripotassium hexacyanoferrate	KE-34764
7732-18-5	water, distilled, conductivity or of similar purity	KE-35400

- GHS 라벨 요소
본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

- 위험 도표



GHS07

- 표지어 경고
- 위험 문구
눈에 심한 자극을 일으킴
- 주의 문구
(보호장갑·보호의·보안경·안면보호구)를(을) 착용하시오.
취급 후에는 취급 부위를 철저히 씻으시오.
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하시오. 계속 씻으시오.
눈에 자극이 지속되면 의학적인 조치·조언을 구하시오.

(7 쪽에계속)

안전지침서

제31조의 1907/2006/EC에 따라

기압점: 2015.10.29

개정: 2015.10.29

제품명: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(6 쪽부터계속)

- 용기는 환기가 잘 되는 곳에 단단히 밀폐하여 저장 하시오.
 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출
 · **화학물질 안전성 평가:** 화학물질 안전성 평가가 수행되지 않음

16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은
 기술하지않았으며계약적인법률관계에기반을두고있지도않다

- **최초 작성일자:** 2015.10.29
- **개정 횟수 및 최종 개정일자:** 1 / 2015.10.29
- **약어와 두문자어:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

심한 눈 손상/자극성 구분2: Serious eye damage/eye irritation, Hazard Category 2

KR

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.10.2015

Revisión: 29.10.2015

SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

- **1.1 Identificador del producto**
- **Nombre comercial:** POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION
- **Número del artículo:** 25154-5, 26603-01
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Aname**
C/ Perez Galdos no. 2
28693 Quijorna
Madrid, Spain
Tel: +34.91.816.89.50
Fax: +34.91.816.85.94
email: ventas@aname.es
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECCIÓN 2: Identificación de los peligros

- **2.1 Clasificación de la sustancia o de la mezcla**
- **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS07

- Acute Tox. 4 H302 Nocivo en caso de ingestión.
- Acute Tox. 4 H312 Nocivo en contacto con la piel.
- Acute Tox. 4 H332 Nocivo en caso de inhalación.

- **2.2 Elementos de la etiqueta**
- **Etiquetado con arreglo al Reglamento (CE) n° 1272/2008**
El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.
- **Pictogramas de peligro**



GHS07

- **Palabra de advertencia** Atención
- **Indicaciones de peligro**
H302+H312+H332 Nocivo en caso de ingestión, contacto con la piel o inhalación.

(se continua en página 2)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.10.2015

Revisión: 29.10.2015

Nombre comercial: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(se continua en página 1)

· Consejos de prudencia

- P261 Evitar respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.
- P280 Llevar guantes/prendas/gafas/máscara de protección.
- P321 Se necesita un tratamiento específico (ver en esta etiqueta).
- P301+P312 EN CASO DE INGESTIÓN: Llamar a un CENTRO DE TOXICOLOGÍA/médico si la persona se encuentra mal.
- P304+P340 EN CASO DE INHALACIÓN: Transportar a la persona al aire libre y mantenerla en una posición que le facilite la respiración.
- P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

· 2.3 Otros peligros

· Resultados de la valoración PBT y mPmB

- **PBT:** No aplicable.
- **mPmB:** No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

· 3.2 Caracterización química: Mezclas

- **Descripción:** Mezcla formada por las sustancias especificadas a continuación con adiciones no peligrosas.

· Componentes peligrosos:

CAS: 13746-66-2	hexacianoferrato de tripotasio	2,5-10%
EINECS: 237-323-3	sustancia a la que se aplica un límite comunitario de exposición en el lugar de trabajo	

- **Indicaciones adicionales:** El texto de los posibles riesgos aquí indicados se puede consultar en el capítulo 16.

SECCIÓN 4: Primeros auxilios

· 4.1 Descripción de los primeros auxilios

- **En caso de inhalación del producto:** Suministrar aire fresco. En caso de trastornos, consultar al médico.
- **En caso de contacto con la piel:** Por regla general, el producto no irrita la piel.
- **En caso de con los ojos:**
Limpiar los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.
- **En caso de ingestión:** Consultar un médico si los trastornos persisten.
- **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**
No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

· 5.1 Medios de extinción

· Sustancias extintoras apropiadas:

CO₂, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.

- **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.

· 5.3 Recomendaciones para el personal de lucha contra incendios

- **Equipo especial de protección:** No se requieren medidas especiales.

ES

(se continua en página 3)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.10.2015

Revisión: 29.10.2015

Nombre comercial: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(se continua en página 2)

SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia** No es necesario.
- **6.2 Precauciones relativas al medio ambiente:**
Diluir con mucha agua.
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**
Ver capítulo 7 para mayor información sobre una manipulación segura.
Ver capítulo 8 para mayor información sobre el equipo personal de protección.
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:** No se requieren medidas especiales.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**
Mantener el recipiente cerrado herméticamente.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

SECCIÓN 8: Controles de exposición/protección individual

- **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**
Sin datos adicionales, ver punto 7.

· 8.1 Parámetros de control

- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**

13746-66-2 hexacianoferrato de tripotasio

LEP	Valor de larga duración: 1 mg/m ³ c, como Fe
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- **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

· 8.2 Controles de la exposición

- **Equipo de protección individual:**

· **Medidas generales de protección e higiene:**

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Evitar el contacto con los ojos.

Evitar el contacto con los ojos y la piel.

- **Protección respiratoria:**

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

(se continua en página 4)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.10.2015

Revisión: 29.10.2015

Nombre comercial: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(se continua en página 3)

· **Protección de manos:**

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

· **Material de los guantes**

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro. Teniendo en cuenta que el producto está fabricado a partir de diferentes materiales, su calidad no puede ser evaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

· **Tiempo de penetración del material de los guantes**

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

· **Protección de ojos:**



Gafas de protección herméticas

SECCIÓN 9: Propiedades físicas y químicas

· **9.1 Información sobre propiedades físicas y químicas básicas**

· **Datos generales**

· **Aspecto:**

· Forma:	Líquido
· Color:	Ámbar coloreado
· Olor:	Característico
· Umbral olfativo:	No determinado.

· **valor pH:** No determinado.

· **Cambio de estado**

· Punto de fusión /campo de fusión:	Indeterminado.
· Punto de ebullición /campo de ebullición:	100 °C

· **Punto de inflamación:** No aplicable.

· **Inflamabilidad (sólido, gaseiforme):** No aplicable.

· **Temperatura de ignición:**

· **Temperatura de descomposición:** No determinado.

· **Autoinflamabilidad:** El producto no es autoinflamable.

· **Peligro de explosión:** El producto no es explosivo.

· **Límites de explosión:**

· Inferior:	No determinado.
· Superior:	No determinado.

· **Presión de vapor a 20 °C:** 23 hPa

· Densidad a 20 °C:	0,62 g/cm ³
· Densidad relativa	No determinado.
· Densidad de vapor	No determinado.
· Velocidad de evaporación	No determinado.

(se continua en página 5)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

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Nombre comercial: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(se continua en página 4)

· Solubilidad en / miscibilidad con agua:	Completamente mezclable.
· Coeficiente de reparto (n-octanol/agua):	No determinado.
· Viscosidad:	
Dinámica:	No determinado.
Cinemática:	No determinado.
· Concentración del disolvente:	
Disolventes orgánicos:	0,0 %
Agua:	95,0 %
VOC (CE)	0,00 %
· 9.2 Información adicional	No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad**
- **10.2 Estabilidad química**
- **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.
- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**
- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** No produce irritaciones.
- **Lesiones o irritación ocular graves** Produce irritaciones.
- **Sensibilización respiratoria o cutánea** No se conoce ningún efecto sensibilizante.
- **Indicaciones toxicológicas adicionales:**
En conformidad con el procedimiento de cálculo contenido en la última versión de la Normativa General de Clasificación de la CE para Preparados, el producto tiene los siguientes riesgos:
Irritante

SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**
Nivel de riesgo para el agua 2 (autoclasificación): peligroso para el agua
No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.
Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.

(se continua en página 6)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.10.2015

Revisión: 29.10.2015

Nombre comercial: POTASSIUM FERROCYANIDE, 5% AQUEOUS SOLUTION

(se continua en página 5)

- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.
- **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

SECCIÓN 14: Información relativa al transporte

- | | |
|--|---------------|
| · 14.1 Número UN | |
| · ADR, ADN, IMDG, IATA | suprimido |
| · 14.2 Designación oficial de transporte de las Naciones Unidas | |
| · ADR, ADN, IMDG, IATA | suprimido |
| · 14.3 Clase(s) de peligro para el transporte | |
| · ADR, ADN, IMDG, IATA | |
| · Clase | suprimido |
| · 14.4 Grupo de embalaje | |
| · ADR, IMDG, IATA | suprimido |
| · 14.5 Peligros para el medio ambiente: | |
| · Contaminante marino: | No |
| · 14.6 Precauciones particulares para los usuarios | No aplicable. |
| · 14.7 Transporte a granel con arreglo al anexo II del Convenio Marpol 73/78 y del Código IBC | No aplicable. |
| · "Reglamentación Modelo" de la UNECE: | - |

SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** ninguno de los componentes está incluido en una lista
- **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

(se continua en página 7)

Ficha de datos de seguridad
según 1907/2006/CE, Artículo 31

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(se continua en página 6)

· Abreviaturas y acrónimos:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

Acute Tox. 4: Acute toxicity, Hazard Category 4

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