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

Printing date 01.07.2013 *Revision: 20.10.2009*

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

1.1 Product identifier
Trade name ***Potassium hexacyanoferrate (II), 0.1NStandardized Solution***
Stock number: 35585
CAS Number: 13943-58-3
1.2 Relevant identified uses of the substance or mixture and uses advised against.
Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet
Manufacturer/Supplier: Alfa Aesar GmbH & Co.KG
A Johnson Matthey Company
Zeppelinstr. 7b
76185 Karlsruhe / Germany
Tel: +49 (0) 721 84007 280
Fax: +49 (0) 721 84007 300
Email: tech@alfa.com
www.alfa.com
Informing department: Product safety Tel + +049 (0) 7275 988687-0
1.4 Emergency telephone number: Carechem 24: +44 (o) 1235 239 670 (Multi-language emergency number)
Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telephone: +49(0)6131/19240

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 The substance is not classified as hazardous to health or the environment according to the CLP regulation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC Not applicable
Information concerning particular hazards for human and environment: Not applicable
Other hazards that do not result in classification No information known.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 Not applicable
Hazard pictograms Not applicable
Signal word Not applicable
Hazard statements Not applicable
2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances
CAS# Designation: 13943-58-3 Potassium hexacyanoferrate (II), 0.1NStandardized Solution

SECTION 4: First aid measures

4.1 Description of first aid measures
After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
Seek immediate medical advice.
After skin contact Instantly wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact Rinse opened eye for several minutes under running water. Then consult doctor.
After swallowing Seek medical treatment.
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 Use fire fighting measures that suit the environment.
5.2 Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Possibly Hydrogen cyanide (HCN)
Potassium oxide
Metal oxide
5.3 Advice for firefighters
Protective equipment: Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
6.2 Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.
6.3 Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Prevention of secondary hazards: No special measures required.
6.4 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 information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Information about protection against explosions and fires: The product is not flammable

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7.2 Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and containers: No special requirements.
Information about storage in one common storage facility: Water reacts with many metals to give hydrogen, often violently. Water also reacts violently with many reactive organic and inorganic chemicals.
Further information about storage conditions: Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

8.1 Control parameters
Components with critical values that require monitoring at the workplace:

Iron salts, soluble (as Fe)

	mg/m3
ACGIH TLV	1
Finland TWA	1
Korea TLV	1
Norway TWA	1
Switzerland MAK-W	1
United Kingdom LTEL	1; 2-STEL

Additional information: No data

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.
Instantly remove any soiled and impregnated garments.
Wash hands during breaks and at the end of the work.
Maintain an ergonomically appropriate working environment.
Breathing equipment: Use breathing protection with high concentrations.
Protection of hands: Check protective gloves prior to each use for their proper condition.
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.
Material of gloves Impervious gloves
Penetration time of glove material Not determined
Eye protection: Safety glasses
Body protection: Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
Form: Solution
Colour: Pale yellow
Smell: Odourless
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition
Melting point/Melting range: Not determined
Boiling point/Boiling range: Not determined
Sublimation temperature / start: Not determined

Flash point: Not determined
Inflammability (solid, gaseous) Not determined.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Self-inflammability: Not determined.

Danger of explosion: Product is not explosive.
Critical values for explosion:
Lower: Not determined
Upper: Not determined
Steam pressure: Not determined
Density Not determined
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.
9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity No information known.
10.2 Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
10.3 Possibility of hazardous reactions Water reacts violently with alkali metals.
Reacts with alkaline earth metals
10.5 Incompatible materials: Water reacts with many metals to give hydrogen, often violently. Water is also incompatible with many reactive organic and inorganic chemicals.
10.6 Hazardous decomposition products: Possibly Hydrogen cyanide (HCN)
Carbon monoxide and carbon dioxide
Potassium oxide

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Metal oxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity: No effects known.
LD/LC50 values that are relevant for classification: No data
Skin irritation or corrosion: May cause irritation
Eye irritation or corrosion: May cause irritation
Sensitization: No sensitizing effect known.
Germ cell mutagenicity: No effects known.
Carcinogenicity: No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity: No effects known.
Specific target organ system toxicity - repeated exposure: No effects known.
Specific target organ system toxicity - single exposure: No effects known.
Aspiration hazard: No effects known.
Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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: Do not allow material to be released to the environment without proper governmental permits.
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Avoid transfer into the environment.
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 Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.
Recommended cleaning agent: Water, if necessary with cleaning agent.

SECTION 14: Transport information

UN-Number **ADR, IMDG, IATA**	None
14.2 UN proper shipping name **ADR, IMDG, IATA**	None
14.3 Transport hazard class(es) **ADR, IMDG, IATA** **Class**	None
Packing group **ADR, IMDG, IATA**	None
14.5 Environmental hazards:	Not applicable.
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.
Transport/Additional information:	Not dangerous according to the above specifications.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Australian Inventory of Chemical Substances Substance is listed.
Standard for the Uniform Scheduling of Drugs and Poisons Substance is not listed.
National regulations
Information about limitation of use: For use only by technically qualified individuals.
Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
Other regulations, limitations and prohibitive regulations
ELINCS (European List of Notified Chemical Substances) Substance is not listed.
Substances of very high concern (SVHC) according to REACH, Article 57 Substance is not listed.
REACH - Pre-registered substances Substance is listed.
15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.
Abbreviations and acronyms:
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

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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 Harmonized System of Classification and Labelling of Chemicals
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent