

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Substance name: Potassium ferrate (VI)  
 Trade name: ENVIFER  
 EC No.:  
 Reach registration number: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.  
 CAS-No. : Reaction mass of 13718-66-6 and 12160-44-0

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

Identified uses: Elimination and removing of organic compound, arsenic, selenium and other contaminants from wastewaters.

**1.3 Details of the supplier of the Safety Data Sheet**

- **Supplier:** NANO IRON, s.r.o.  
 - **Street address:** Štefánikova 116  
 - **Country ID/Postcode/Place:** (CZ) Czech Republic/66461/Rajhrad  
 - **Telephone number/Fax:** +420 513 033 633/ +420 547 230 212  
 - **E-mail address:** info@nanoiron.cz  
 - **National contact:** +420 513 033 633  
 - **Identification number:** 28298055

**1.4 Emergency telephone number:** +420 224 919 293 or +420 224 915 402 (non-stop medical service), TIS Praha, Na Bojišti 1, 128 08 Prague 2. Czech republic.

**2. HAZARDS IDENTIFICATION****2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Oxidizing solids (Category 2)

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Contact with combustible material may cause fire.

**2.2 Label elements**

**Labelling according Regulation (EC) No 1272/2008 [CLP]**

**Pictogram**



**Signal word**

Danger

**Hazard statement(s)**

H272 May intensify fire; oxidiser.

**Precautionary statement(s)**

P220 Keep/Store away from clothing/ combustible materials.

P232 Protect from moisture.

P233 Keep container tightly closed.

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

**Supplemental Hazard**

**Statements**

None

**According to European Directive 67/548/EEC as amended.**

**Hazard symbol(s)**



**R-phrases)**

R 8 Contact with combustible material may cause fire.

**S-phrases)**

S17 Keep away from combustible material.

S36 Wear suitable protective clothing.

**2.3 Other hazards – none**

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**3.1 Substances**

Formula :  $K_2FeO_4$

Molecular Weight : 198,04 g/mol

### 4. FIRST AID MEASURES



**4.1 Description of first aid measures**

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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

No data available

### 5. FIRE-FIGHTING MEASURES



**5.1 Extinguishing media**

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Potassium oxides, Iron oxides

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for fire-fighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate person to safe areas.

**6.2 Environmental precautions**

Do not let product enter drains.

**6.3 Methods and materials for containment and cleaning up**

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition

- No smoking. Keep away from heat and sources of ignition. Normal measures for preventive fire protection.

Do not eat, drink or smoke during work. Before break and after work, wash your hands and take off contaminated clothing.

Store this clothing separately.

**7.2 Conditions for safe storage, including any incompatibilities**

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

Store under inert gas. Sensitive to moisture.

**7.3 Specific end uses**

No data available

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters**

Components with workplace control parameters

**8.2 Exposure controls**

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment****Eye/face protection**

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Body Protection**

Impervious clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

- |  |  |
|--|--|
| a) Appearance Form:                              | powder   |
| Colour:  | black  |
| b) Odour   | no data available  |
| c) Odour Threshold:                              | no data available  |
| d) pH  | no data available  |
| e) Melting point/freezing point                  | Melting point/range: > 400 °C - lit.                                     |
| f) Boiling point and boiling range:              | no data available  |
| g) Flash point:                                  | no data available  |
| h) Evaporation rate:                             | no data available  |
| i) Flammability (solid, gas):                    | no data available  |
| j) Upper/lower flammability or explosive limits: | no data available  |
| k) Vapour pressure:                              | no data available  |
| l) Vapour density:                               | no data available  |
| m) Relative density:                             | no data available  |
| n) Solubility (ies):                             | no data available  |
| o) Partition coefficient: n-octanol/water:       | no data available  |
| p) Auto-ignition temperature:                    | no data available  |
| q) Decomposition temperature:                    | no data available  |
| r) Viscosity:                                    | no data available  |
| s) Explosive properties:                         | no data available  |
| t) Oxidizing properties:                         | The substance or mixture is classified as oxidizing with the category 2. |

**9.2 Other information**

No data available

**10. STABILITY AND REACTIVITY****10.1 Reactivity**

No data available

**10.2 Chemical stability**

No data available

**10.3 Possibility of hazardous reactions**

No data available

**10.4 Conditions to avoid**

Avoid moisture.

**10.5 Incompatible materials**

Organic materials, powdered metals

**10.6 Hazardous decomposition products**

Other decomposition products - no data available

**11. TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects**

Acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Potential health effects**

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

**Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information**

RTECS: Not available

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

No data available

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

No data available

**12.6 Other adverse effects**

No data available

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION****14.1 UN number**

ADR/RID: 1479

IMDG: 1479

IATA: 1479



Czech MSDS prepared by:

Translation into English by: