1 Identification

Product identifier

Product name: Potassium fluoride dihydrate

Stock number: 10841
CAS Number: 13455-21-5
EC number: 232-151-5
Index number: 009-005-00-2

Relevant identified uses of the substance or mixture and uses advised against.
Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com
www.alfa.com

Information Department: Health, Safety and Environmental Department
Emergency telephone number:
During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)

- GHS06 Skull and crossbones
Acute Tox. 3 H301 Toxic if swallowed.
Acute Tox. 3 H311 Toxic in contact with skin.
Acute Tox. 3 H331 Toxic if inhaled.
Hazards not otherwise classified: No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

Hazard pictograms

- GHS06

Signal word: Danger

Hazard statements
H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.

Precautionary statements
P280 Wear protective gloves / protective clothing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P341 IF CAUGHT IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310+P313+P360+P320 IF IN TOWARDS: Immediately call a POISON CENTER / doctor /...

WHMIS classification
D1A - Very toxic material causing immediate and serious toxic effects

Classification system

HMIS ratings (scale 0-4)
- Health (acute effects) = 2
- Flammability = 0
- Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substances
CAS# Description:
13455-21-5 Potassium fluoride dihydrate
Identification number(s):
EC number: 232-151-5
Index number: 009-005-00-2

4 First-aid measures

Description of first aid measures

General information
Immediately remove any clothing soiled by the product.
Remove breathing apparatus only after contaminated clothing has been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.

(Contd. on page 2)
Seek immediate medical advice. After skin contact, immediately wash with water and soap and rinse thoroughly. After eye contact, rinse opened eye for several minutes under running water. Then consult a doctor. After swallowing, do not induce vomiting; immediately call for medical help.

**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: Product is not flammable. Use fire-fighting measures that suit the surrounding fire.

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

If this product is involved in a fire, the following can be released:
- Hydrogen fluoride (HF)
- Potassium oxide

**Advice for firefighters**

Wear self-contained respirator.

Wear fully protective impervious suit.

### 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

**Environmental precautions**: Do not allow material to be released to the environment without proper governmental permits.

**Methods and material for containment and cleaning up**

Dispose of contaminated material as waste according to section 13.

**Prevention of secondary hazards**: No special measures required.

### 7 Handling and storage

**Handling**

Precautions for safe handling:
- Handle under dry protective gas.
- Keep container tightly sealed.
- Store in cool, dry place in tightly closed containers.
- Ensure good ventilation at the workplace.
- Open and handle container with care.

**Information about protection against explosions and fires**: The product is not flammable.

**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**: Store away from water/moisture.

**Further information about storage conditions**

- Store under dry inert gas.
- This product is hygroscopic.
- Keep container tightly sealed.
- Store in cool, dry conditions in well sealed containers.

**Specific end use(s)**

- No further relevant information available.

### 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.

**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**: No data

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

- The usual precautionary measures for handling chemicals should be followed.
- Keep away from foodstuffs, beverages and feed.
- Remove all soiled and contaminated clothing immediately.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes and skin.

- Maintain an ergonomically appropriate working environment.

**Breathing equipment**: Use self-contained respiratory protective device in emergency situations.

**Protection of hands**

- Impervious gloves

- Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Penetration time of glove material (in minutes)**: Not determined

**Eye protection**: Safety glasses

**Body protection**: Protective work clothing.
### 9 Physical and chemical properties

**General information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Crystalline</td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>White</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Odorless</td>
</tr>
<tr>
<td><strong>Odor threshold</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>pH-value</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Melting point/Melting range</strong></td>
<td>41 °C (106 °F)</td>
</tr>
<tr>
<td><strong>Boiling point/Boiling range</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Sublimation temperature/start</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Flammability (solid, gaseous)</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Ignition temperature</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Auto igniting</strong></td>
<td>Not determined</td>
</tr>
</tbody>
</table>

**Flammability (solid, gaseous)**: Not determined.

**Explosion limits**:
- **Lower**: Not determined
- **Upper**: Not determined

**DANGER OF EXPLOSION**: Not determined.

**Persistence and degradability**: Not determined.

**Bioaccumulative potential**: Not determined.

**Mobility in soil**: Not determined.

**Additional Ecological Information**: Not determined.

**General notes**: Do not allow material to be released to the environment without proper governmental permits.

**Results of PBT and vPvB assessment**
- **PBT**: Not applicable
- **vPvB**: Not applicable

### 10 Stability and reactivity

**Reactivity**: No information known.

**Chemical stability**: Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided**: Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions**: Reacts with strong oxidizing agents

**Conditions to avoid**: No further relevant information available.

**Incompatible materials**: Water/moisture, Oxidizing agents

**Hazardous decomposition products**: Hydrogen fluoride, Potassium oxide

### 11 Toxicological information

**Acute toxicity**: Toxic in contact with skin, Toxic if inhaled, Toxic if swallowed.

**Skin irritation or corrosion**: May cause irritation

**Eye irritation or corrosion**: May cause irritation

**Sensitization**: No sensitizing effects known.

**Germ cell mutagenicity**: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

**Carcinogenicity**: ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

**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.

**Subacute to chronic toxicity**: No effects known.

**Additional toxicological information**: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

### 12 Ecological information

**Toxicity**: No further relevant information available.

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

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

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

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

**Additional Ecological Information**: Not determined.

**General notes**: Do not allow product or large quantities to reach ground water, water course or sewage system.

**Avoid transfer into the environment.**

**Results of PBT and vPvB assessment**
- **PBT**: Not applicable
- **vPvB**: Not applicable

### 13 Disposal considerations

**Waste treatment methods**

**Recommendation**: Consult state, local or national regulations to ensure proper disposal.
14 Transport information

<table>
<thead>
<tr>
<th>DOT, IMDG, IATA</th>
<th>UN1812</th>
</tr>
</thead>
</table>

**UN proper shipping name**

DOT: Potassium fluoride, solid
IMDG, IATA: POTASSIUM FLUORIDE, SOLID

**Transport hazard class(es)**

**DOT**

- **Class**: 6.1 Toxic substances.
- **Label**: 6.1
- **T5**: Toxic substances

**IMDG, IATA**

- **Class**: 6.1 Toxic substances.

**Packing group**

**DOT, IMDG, IATA**: III

**Environmental hazards:** Not applicable.

**Special precautions for user**

**EMS Number:** F-A,S-A

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

**Transport/Additional information:**

**DOT**

- Marine Pollutant (DOT): No

**UN "Model Regulation":**

- UN1812, Potassium fluoride, solid, 6.1, III

15 Regulatory information

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

**GHS label elements**

The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

**Hazard pictograms**

- **GHS06**

**Signal word**

DANGER

**Hazard statements**

- H301+H311+H331: Toxic if swallowed, in contact with skin or if inhaled.

**Precautionary statements**

- **P280**: Wear protective gloves / protective clothing.
- **P305+P351+P338**: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **P309**: IF exposed or if you feel unwell:
- **P310**: Immediately call a POISON CENTER/doctor/…

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

All components of this product are listed on the Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings) Substance is not listed.

California Proposition 65

- Prop 65 - Chemicals known to cause cancer Substance is not listed.
- Prop 65 - Developmental toxicity Substance is not listed.

**Other regulations, limitations and prohibitive regulations**

- Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

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

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 SDS:** Global Marketing Department

**Date of preparation / last revision:** 11/24/2015

**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
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- HMIS: Hazardous Materials Identification System (USA)
- WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
vPvB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)