

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Potassium fluoride for analysis

Revision date: 11.08.2023

Product code: 06166

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

1.1. Product identifier

Potassium fluoride for analysis

REACH Registration Number: 01-2119555273-40-XXXX
CAS No: 7789-23-3
Index No: 009-005-00-2
EC No: 232-151-5

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

Use of the substance/mixture

Laboratory chemicals

Industrial uses: Uses of substances as such or in preparations at industrial sites

Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name: AnalytiChem GmbH
Street: Stempelstraße 6
Place: D-47167 Duisburg
Telephone: 0203/5194-0
E-mail: info@analytichem.de
Contact person: Abteilung Produktsicherheit
E-mail: produktsicherheit@analytichem.de
Internet: www.analytichem.de
Responsible Department: Abteilung Produktsicherheit
Telefax: 0203/5194-290
Telephone: 0203/5194-107/117

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

No data available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 3; H331
Acute Tox. 3; H311
Acute Tox. 3; H301
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Danger

Pictograms:



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Hazard statements

H301+H311+H331 Toxic if swallowed, in contact with skin or if inhaled.
H318 Causes serious eye damage.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.

Additional advice on labelling

No information available.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: KF
Molecular weight: 58,1 g/mol

Hazardous components

| CAS No | Chemical name | | | Quantity |
|-----------|---|--------------|-----------------------|----------|
| | EC No | Index No | REACH No | |
| | Classification (Regulation (EC) No 1272/2008) | | | |
| 7789-23-3 | potassium fluoride | | | 100 % |
| | 232-151-5 | 009-005-00-2 | 01-2119555273-40-XXXX | |
| | Acute Tox. 3, Acute Tox. 3, Acute Tox. 3, Eye Dam. 1; H331 H311 H301 H318 | | | |

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

| CAS No | EC No | Chemical name | Quantity |
|-----------|--|--------------------|----------|
| | Specific Conc. Limits, M-factors and ATE | | |
| 7789-23-3 | 232-151-5 | potassium fluoride | 100 % |
| | inhalation: ATE = 3 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); dermal: LD50 = > 2000 mg/kg; oral: LD50 = ca. 148,5 mg/kg | | |

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. Call a physician immediately.

After inhalation

Provide fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Call a physician immediately.

After contact with skin

Rinse with plenty of water for at least 10 minutes. Immediately remove contaminated clothes. Apply calcium gluconate gel (preparation: boil 5 g of calcium gluconate in 85 ml of hot distilled water, add 10 g glycerol. Allow

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5 g of Carmellose-sodium to swell in the hot solution. Stable for 6 months, store in a cool place) and massage into the skin until the pain subsides, in between rinse with water and apply fresh gel. Continue gel therapy for another 15 minutes after the pain has subsided. If no calcium gluconate gel is available, apply several dressings thoroughly moistened with 20 % calcium gluconate solution. Medical advice absolutely required!

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing. Protect uninjured eye.

After ingestion

Never give anything by mouth to an unconscious person or a person with cramps.

Rinse mouth immediately and drink plenty of water.

Adverse human health effects and symptoms:

Gastric perforation

Remove casualty to fresh air and keep warm and at rest.

Call a physician immediately.

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

Irritant

Causes burns.

Dyspnoea

Respiratory complaints

Unconsciousness

Spasms

Corneal opacity.

Agitation

Cardiac arrhythmias

Circulatory collapse

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Non-combustible solids

Hazardous combustion products

In case of fire may be liberated: Hydrogen fluoride

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

In case of fire and/or explosion do not breathe fumes. Use water spray jet to protect personnel and to cool endangered containers.

Additional information

Suppress gases/vapours/mists with water spray jet.

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Move undamaged containers from immediate hazard area if it can be done safely.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.

Use personal protection equipment.

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Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid exposure - obtain special instructions before use.
Do not breathe dust. Avoid dust formation.
Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Keep container tightly closed.
Use personal protection equipment. Use extractor hood (laboratory).
Provide adequate ventilation.
Avoid contact with skin, eyes and clothes.

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs. Make available sufficient washing facilities
Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Draw up and observe skin protection programme.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off immediately all contaminated clothing and wash it before reuse.
If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.
Keep locked up.

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Store in a place accessible by authorized persons only.
Provide adequate ventilation as well as local exhaust at critical locations.
storage temperature +5°C - +30°C

Further information on storage conditions

Store in a dry place.
Suitable container/equipment material: plastic
Unsuitable container/equipment material: Metal Glass

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

| CAS No | Substance | Exposure route | Effect | Value |
|-----------|------------------------|----------------|----------|----------------------|
| 7789-23-3 | potassium fluoride | | | |
| | Worker DNEL, long-term | inhalation | systemic | 3 mg/m ³ |
| | Worker DNEL, acute | inhalation | systemic | 12 mg/m ³ |
| | Worker DNEL, long-term | inhalation | local | 3 mg/m ³ |
| | Worker DNEL, acute | inhalation | local | 12 mg/m ³ |
| | Worker DNEL, long-term | dermal | systemic | 0,44 mg/kg bw/day |
| | Worker DNEL, acute | dermal | systemic | 0,44 mg/kg bw/day |

PNEC values

| CAS No | Substance | Value |
|-----------|--|-----------|
| 7789-23-3 | potassium fluoride | |
| | Freshwater | 0,89 mg/l |
| | Micro-organisms in sewage treatment plants (STP) | 51 mg/l |
| | Soil | 11 mg/kg |

8.2. Exposure controls

Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used.
Do not breathe dust. Avoid dust formation.
Technical measures and the application of suitable work processes have priority over personal protection equipment.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection:
goggles
Face protection umbrella

Hand protection

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

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Recommended glove articles: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact
Recommended glove articles: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet <(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.
Take off immediately all contaminated clothing.
Wash hands before breaks and after work.

Respiratory protection

Respiratory protection necessary at: dust formation
Filtering device with filter or ventilator filtering device of type: B-(P3)

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--------------------|
| Physical state: | solid |
| Colour: | colourless / white |
| Odour: | odourless |
| Odour threshold: | No data available |
| Melting point/freezing point: | 846 °C |
| Boiling point or initial boiling point and boiling range: | 1505 °C |
| Flammability: | not applicable |
| Lower explosion limits: | not determined |
| Upper explosion limits: | not determined |
| Flash point: | X |
| Auto-ignition temperature: | No data available |
| Decomposition temperature: | not determined |
| pH-Value (at 20 °C): | 8 - 9 (50 g/l) |
| Viscosity / kinematic: | not determined |
| Water solubility: (at 20 °C) | 923 g/L |
| Solubility in other solvents | not determined |
| Dissolution rate: | No data available |
| Partition coefficient n-octanol/water: | log Pow: -0,77 |
| Dispersion stability: | No data available |
| Vapour pressure: (at 885 °C) | 1,3 hPa |
| Vapour pressure: | not determined |
| Density (at 20 °C): | 2,48 g/cm³ |

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| | |
|---------------------------|-------------------------|
| Relative density: | No data available |
| Bulk density: | ~ 400 kg/m ³ |
| Relative vapour density: | not determined |
| Particle characteristics: | No data available |

9.2. Other information

Information with regard to physical hazard classes

| | |
|---------------------------|-------------------|
| Explosive properties | No data available |
| Sustaining combustion: | No data available |
| Self-ignition temperature | |
| Solid: | not applicable |
| Gas: | not applicable |
| Oxidizing properties | |
| Not oxidising. | |

Other safety characteristics

| | |
|--------------------------|-------------------|
| Evaporation rate: | not determined |
| Solvent separation test: | No data available |
| Solvent content: | No data available |
| Solid content: | 100% |
| Sublimation point: | No data available |
| Softening point: | No data available |
| Pour point: | No data available |
| No data available: | |
| Viscosity / dynamic: | not determined |
| Flow time: | not determined |

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Oxidising agent, strong
Acid

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

In case of fire:
SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

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

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Toxicokinetics, metabolism and distribution

Avoid exposure - obtain special instructions before use.

Acute toxicity

Toxic if swallowed.
Toxic in contact with skin.
Toxic if inhaled.

| CAS No | Chemical name | | | | |
|-----------|----------------------|----------------------|---------|---------------------------|--------------------|
| | Exposure route | Dose | Species | Source | Method |
| 7789-23-3 | potassium fluoride | | | | |
| | oral | LD50 ca. 148,5 mg/kg | Rat | Other company data (1984) | EPA OPPTS 870.1100 |
| | dermal | LD50 > 2000 mg/kg | Rat | Study report (1995) | EPA OPPTS 870.1200 |
| | inhalation vapour | ATE 3 mg/l | | | |
| | inhalation dust/mist | ATE 0,5 mg/l | | | |

Irritation and corrosivity

Causes serious eye damage.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Sensitising effects

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

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

Based on available data, the classification criteria are not met.
No data available

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information

No data available

Further information

Irritant
Causes burns.
Dyspnoea
Respiratory complaints
Unconsciousness

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Spasms
Corneal opacity.
Agitation
Cardiac arrhythmias
Circulatory collapse

SECTION 12: Ecological information

12.1. Toxicity

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

| CAS No | Chemical name | | | | | |
|-----------|----------------------|---------------|-----------|-----------------------|---|--|
| | Aquatic toxicity | Dose | [h] [d] | Species | Source | Method |
| 7789-23-3 | potassium fluoride | | | | | |
| | Acute algae toxicity | ErC50 43 mg/l | 96 h | various algae species | European Union Risk Assessment Report, V | Methods not detailed in the review. |
| | Fish toxicity | NOEC 4 mg/l | 21 d | Oncorhynchus mykiss | EU RAR Hydrogen Fluoride, Volume 8, 2001 | other: no guideline stated |
| | Algae toxicity | NOEC 50 mg/l | 7 d | various | Appendix to Report 785484010, RIVM (1989) | The review includes summaries of a numbr |
| | Crustacea toxicity | NOEC 3,7 mg/l | 21 d | Daphnia magna | European Union Risk Assessment Report, V | The publication is a review article of v |

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

log Pow: -0,77

No indication of bioaccumulation potential.

BCF

| CAS No | Chemical name | BCF | Species | Source |
|-----------|--------------------|---------|---------|----------------------|
| 7789-23-3 | potassium fluoride | 53 - 58 | | EU RAR Hydrogen Fluo |

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.
Do not allow to enter into surface water or drains.
Do not allow to enter into soil/subsoil.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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Disposal recommendations

Dispose of waste according to applicable legislation.

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not mix with other wastes.

Contaminated packaging

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

Handle contaminated packages in the same way as the substance itself.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information**Land transport (ADR/RID)**

| | |
|--|---------------------------|
| 14.1. UN number or ID number: | UN 1812 |
| 14.2. UN proper shipping name: | POTASSIUM FLUORIDE, SOLID |
| 14.3. Transport hazard class(es): | 6.1 |
| 14.4. Packing group: | III |
| Hazard label: | 6.1 |
| Classification code: | T5 |
| Limited quantity: | 5 kg |
| Excepted quantity: | E1 |
| Transport category: | 2 |
| Hazard No: | 60 |
| Tunnel restriction code: | E |

Inland waterways transport (ADN)

| | |
|--|---------------------------|
| 14.1. UN number or ID number: | UN 1812 |
| 14.2. UN proper shipping name: | POTASSIUM FLUORIDE, SOLID |
| 14.3. Transport hazard class(es): | 6.1 |
| 14.4. Packing group: | III |
| Hazard label: | 6.1 |
| Classification code: | T5 |
| Special Provisions: | 802 |
| Limited quantity: | 5 kg |
| Excepted quantity: | E1 |

Marine transport (IMDG)

| | |
|--|---------------------------|
| 14.1. UN number or ID number: | UN 1812 |
| 14.2. UN proper shipping name: | POTASSIUM FLUORIDE, SOLID |
| 14.3. Transport hazard class(es): | 6.1 |
| 14.4. Packing group: | III |
| Hazard label: | 6.1 |
| Special Provisions: | - |
| Limited quantity: | 5 kg |
| Excepted quantity: | E1 |
| EmS: | F-A, S-A |

Air transport (ICAO-TI/IATA-DGR)

| | |
|--|---------------------------|
| 14.1. UN number or ID number: | UN 1812 |
| 14.2. UN proper shipping name: | POTASSIUM FLUORIDE, SOLID |
| 14.3. Transport hazard class(es): | 6.1 |
| 14.4. Packing group: | III |
| Hazard label: | 6.1 |
| Limited quantity Passenger: | 10 kg |
| Passenger LQ: | Y645 |

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| | | |
|--|----|--------|
| Excepted quantity: | E1 | |
| IATA-packing instructions - Passenger: | | 670 |
| IATA-max. quantity - Passenger: | | 100 kg |
| IATA-packing instructions - Cargo: | | 677 |
| IATA-max. quantity - Cargo: | | 200 kg |

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

Warning: Toxic. strongly corrosive.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Information according to 2012/18/EU (SEVESO III): H2 ACUTE TOXIC

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Water hazard class (D): 1 - slightly hazardous to water

Skin resorption/Sensitization: Permeates easily through outer skin and causes poisoning.

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 9,12.

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 Harmonized 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

LC50: Lethal concentration, 50%

LD50: Lethal dose, 50%

Acute Tox: Acute toxicity

Eye Dam: Eye damage

Relevant H and EUH statements (number and full text)

H301 Toxic if swallowed.

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

H311 Toxic in contact with skin.

H318 Causes serious eye damage.

H331 Toxic if inhaled.

Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product

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named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.
The receiver of our product is singularly responsible for adhering to existing laws and regulations.