

## Chemical Safety Data Sheet MSDS / SDS

**Potassium fluorosilicate**

Revision Date:2023-12-07 Revision Number:1

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

Product name : Potassium fluorosilicate  
CBnumber : CB5371161  
CAS : 16871-90-2  
EINECS Number : 240-896-2  
Synonyms : potassium fluorosilicate,Potassium Silicofluoride

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

**Company Identification**

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

**SECTION 2: Hazards identification****Classification of the substance or mixture**

Acute toxicity - Category 3, Oral  
Acute toxicity - Category 3, Dermal  
Acute toxicity - Category 3, Inhalation

**Label elements****Pictogram(s)**

□

Signal word : Danger

**Hazard statement(s)**

H301 Toxic if swallowed  
H311 Toxic in contact with skin  
H331 Toxic if inhaled

**Precautionary statement(s)**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

P311 Call a POISON CENTER or doctor/physician.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing.

P405 Store locked up.

#### **Prevention**

P264 Wash ... thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

#### **Response**

P301+P316 IF SWALLOWED: Get emergency medical help immediately.

P321 Specific treatment (see ... on this label).

P330 Rinse mouth.

P302+P352 IF ON SKIN: Wash with plenty of water/...

P316 Get emergency medical help immediately.

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

#### **Storage**

P405 Store locked up.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

#### **Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### **Other hazards**

no data available

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## SECTION 3: Composition/information on ingredients

### **Substance**

Product name	: Potassium fluorosilicate
Synonyms	: potassium fluorosilicate,Potassium Silicofluoride
CAS	: 16871-90-2
EC number	: 240-896-2
MF	: F6K2Si
MW	: 220.27

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## SECTION 4: First aid measures

### **Description of first aid measures**

**If inhaled**

Fresh air, rest. Refer for medical attention.

**Following skin contact**

Remove contaminated clothes. Rinse skin with plenty of water or shower.

**Following eye contact**

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

**Following ingestion**

Rinse mouth. Do NOT induce vomiting. See Notes. Refer immediately for medical attention.

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

no data available

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

no data available

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## SECTION 5: Firefighting measures

**Extinguishing media**

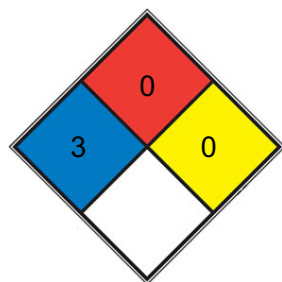
Use dry chemical, carbon dioxide or alcohol-resistant foam.

**Specific Hazards Arising from the Chemical**

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

**Advice for firefighters**

In case of fire in the surroundings, use appropriate extinguishing media.

**NFPA 704**

■ HEALTH 3 Short exposure could cause serious temporary or moderate residual injury (e.g. [liquid hydrogen](#), [sulfuric acid](#), [calcium hypochlorite](#), hexafluorosilicic acid)

■ FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

■ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N2](#))

□ SPEC.

□ HAZ.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered sealable containers. If appropriate, moisten first to prevent dusting. Carefully collect remainder. Then store and dispose of according to local regulations.

### Environmental precautions

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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## SECTION 7: Handling and storage

### Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Separated from acids and food and feedstuffs.

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## SECTION 8: Exposure controls/personal protection

### Control parameters

#### Occupational Exposure limit values

<b>Component</b>	Dipotassium hexafluorosilicate			
<b>CAS No.</b>	16871-90-2			
	<b>Limit value - Eight hours</b>		<b>Limit value - Short term</b>	
	<b>ppm</b>	<b>mg/m<sup>3</sup></b>	<b>ppm</b>	<b>mg/m<sup>3</sup></b>
<b>Latvia</b>	?	0,2	?	?
	<b>Remarks</b>			

#### Biological limit values

no data available

### Exposure controls

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### Individual protection measures

**Eye/face protection**

Wear safety goggles or eye protection in combination with breathing protection if powder.

**Skin protection**

Protective gloves. Protective clothing.

**Respiratory protection**

Avoid inhalation of dust. Use local exhaust or breathing protection.

**Thermal hazards**

no data available

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## SECTION 9: Physical and chemical properties

**Information on basic physicochemical properties**

Physical state	Powder
Colour	White
Odour	no data available
Melting point/freezing point	°Cd ec.)
Boiling point or initial boiling point and boiling range	no data available
Flammability	no data available
Lower and upper explosion limit/flammability limit	no data available
Flash point	no data available
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	1.77 g / L (20 °C)
Partition coefficient n-octanol/water	no data available
Vapour pressure	no data available
Density and/or relative density	2.665
Relative vapour density	2.665
Particle characteristics	no data available

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## SECTION 10: Stability and reactivity

**Reactivity**

no data available

**Chemical stability**

no data available

### **Possibility of hazardous reactions**

Decomposes on heating. This produces toxic and corrosive fumes including fluorine. Reacts with acids. This produces corrosive hydrogen fluoride (see ICSC 0283).

### **Conditions to avoid**

no data available

### **Incompatible materials**

no data available

### **Hazardous decomposition products**

no data available

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## **SECTION 11: Toxicological information**

### **Acute toxicity**

- Oral: LD50 - rat (male) - ca. 114 mg/kg bw. Remarks:As sodium fluoride.
- Inhalation: LC50 - rat (female) - ca. 2.021 mg/L air.
- Dermal: LDLo - rat - ca. 70 mg/kg bw.

### **Skin corrosion/irritation**

no data available

### **Serious eye damage/irritation**

no data available

### **Respiratory or skin sensitization**

no data available

### **Germ cell mutagenicity**

no data available

### **Carcinogenicity**

no data available

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

The substance may cause effects on the blood and calcium metabolism. This may result in cardiac disorders. Medical observation is indicated.

See Notes.

### **STOT-repeated exposure**

The substance may have effects on the bones and teeth. This may result in fluorosis.

## Aspiration hazard

A harmful concentration of airborne particles can be reached quickly when dispersed.

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## SECTION 12: Ecological information

### Toxicity

Toxicity to fish: LC100 - Danio rerio (previous name: Brachydanio rerio) - ca. 50 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - ca. 35.4 mg/L - 48 h.

Toxicity to algae: EC50 - Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) -  $\geq 16.6$  -  $\leq 19.6$  mg/L - 72 h.

Toxicity to microorganisms: EC50 - activated sludge -  $\geq 132$  -  $\leq 216$  mg/L - 3 h. Remarks:Respiration rate.

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### UN Number

ADR/RID: UN2655 (For reference only, please check.)

IMDG: UN2655 (For reference only, please check.)

IATA: UN2655 (For reference only, please check.)

### **UN Proper Shipping Name**

ADR/RID: POTASSIUM FLUOROSILICATE (For reference only, please check.)

IMDG: POTASSIUM FLUOROSILICATE (For reference only, please check.)

IATA: POTASSIUM FLUOROSILICATE (For reference only, please check.)

### **Transport hazard class(es)**

ADR/RID: 6.1 (For reference only, please check.)

IMDG: 6.1 (For reference only, please check.)

IATA: 6.1 (For reference only, please check.)

### **Packing group, if applicable**

ADR/RID: III (For reference only, please check.)

IMDG: III (For reference only, please check.)

IATA: III (For reference only, please check.)

### **Environmental hazards**

ADR/RID: No

IMDG: No

IATA: No

### **Special precautions for user**

no data available

### **Transport in bulk according to IMO instruments**

no data available

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## SECTION 15: Regulatory information

### **Safety, health and environmental regulations specific for the product in question**

#### **European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

#### **EC Inventory**

Listed.

#### **United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

#### **China Catalog of Hazardous chemicals 2015**

Listed.

#### **New Zealand Inventory of Chemicals (NZIoC)**

Listed.

#### **PICCS**

Listed.

#### **Vietnam National Chemical Inventory**

Listed.



## IECSC

Listed.

## Korea Existing Chemicals List (KECL)

Listed.

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# SECTION 16: Other information

## Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

## References

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

## Other Information

Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.