



## **A. GENERAL INFORMATION**

This product safety summary is intended to provide a general overview of the chemical substance in the context of ICCA global product strategy. It is not intended to provide emergency response, medical or treatment information nor to provide an overview of all safety and health information. This summary is not intended to replace the Safety Data Sheet. For detailed guidance on the use or regulatory status of this substance, please consult the Safety Data Sheet.

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## **B. CHEMICAL PRODUCT IDENTIFICATION:**

<b>Product Name</b>	Potassium Fluoride
<b>Synonyms</b>	Potassium Fluoride
<b>IUPAC Name</b>	Potassium Fluoride
<b>CAS NO</b>	7789-23-3
<b>E C No</b>	232-151-5
<b>Molecular Formula</b>	KF

## **C. USES AND APPLICATIONS:**

- ✓ Potassium fluoride is used as a fluoridating agent—a substance that provides fluorine atoms to other compounds—in the preparation of organic chemicals.
- ✓ It also finds some use in the field of metallurgy, where it is used as a flux, to finish metals, to make coatings for metals, and in tin plating.
- ✓ In organic chemistry, KF can be used for the conversion of chlorocarbons into fluorocarbons, via the Finkelstein (alkyl halides) and Halax reactions (aryl chlorides).

## **D. PHYSICAL / CHEMICAL PROPERTIES:**

<b>Properties</b>	Value
<b>Physical state and appearance</b>	Solid



Potassium Fluoride

Odor	Not available
Molecular Weight	58.09
Color:	Not available
PH (1% soln /water)	Not available
Boiling Point	856 °C (101325 Pa)
Melting Point	Not available
Flash Point	1505°C (101325 Pa)
Critical Temperature	Not available
Relative Density	2.49 (22 °C)
Vapor Pressure	Not available
Vapor Density	No information available
Volatility	Not available.
Odor Threshold	Not available.
Water/Oil Dist. Coefficient	-0.77°C at 25°C
Ionicity (in Water)	Not available
Dispersion Properties	Not available

## E. HAZARD IDENTIFICATION:

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Effect	Value
Acute toxicity	Oral LD50- 185.5mh/kg >2000 mg/kg 1 mg/L (4HR)
Skin corrosion/irritation	Toxic in contact with skin
Serious eye damage/eye irritation	Causes serious eye damage
Respiratory skin sensitization	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity – single exposure	No data available
Specific target organ toxicity repeated exposure	No data available



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Acute inhalation toxicity	No data available
Aspiration hazard	No data available
Additional Information	No data available

## F. ENVIRONMENTAL EFFECTS

Effect	Value
Toxicity	Toxicity to fish LC50- 51-340 mg/L Toxicity to daphnia and other aquatic invertebrate EC50- 97-352mg/L Toxicity to algae EC50- 81mg/L
Persistence and degradability Biodegradability aerobic - Exposure time 28 d	Not applicable - Inorganic material. Soluble in water, persistence is unlikely.
Bioaccumulative potential	Log Pow = -0.77 Low potential to bioaccumulate.
Mobility in soil	Low potential for mobility in soil.
Results of PBT and vPvB assessment	No data available
Other adverse effects	No data available

## G. EXPOSURE

Effect	Value
Precautions for safe handling	Use only under a chemical fume hood. Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid dust formation. Do not breathe (dust, vapor, mist, gas). Do not ingest. If swallowed then seek immediate medical assistance. Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep container tightly closed.
Protection against fire and explosion	Wear self contained breathing apparatus for firefighting if necessary.
Conditions for safe storage, including any incompatibilities	Keep containers tightly closed in a dry, cool and well-ventilated place.



## **H. RISK MANAGEMENT MEASURES**

<b>Effect</b>	<b>Value</b>
<b>Eye/face protection</b>	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
<b>Skin protection</b>	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.
<b>Body Protection</b>	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, and the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Respiratory protection</b>	When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly.

## **I. PERSONAL PROTECTIVE EQUIPMENT AND EMERGENCY MEASURES**

- ✓ Control parameters
- ✓ Components with workplace control parameters
- ✓ Exposure controls
- ✓ Appropriate engineering controls
- ✓ Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating /lighting/equipments.
- ✓ Ensure adequate ventilation. Use personal protective equipment as required. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Prevent dust cloud information.

## **J. ACCIDENTAL RELEASE MEASURES**

- ✓ Use proper personal protective equipment.
- ✓ Prevent soil and water pollution. Prevent spreading in sewers.
- ✓ Methods and materials for containment and cleaning up:

For containment: Contain released substance, pump into suitable containers. Plug the leak, cut off the supply. Dam up the solid spill. Knock down/dilute dust cloud with water spray. If

reacting: dilute toxic gas/vapour with water spray. Take account of toxic/corrosive precipitation water. for disposal according to local regulations


Methods for cleaning up: Stop dust cloud by covering with sand/earth or powdered limestone. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

- ✓ Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Remove to an authorized dump (Class I). Detoxicate. Precipitate/make insoluble.

## **K. FIRE FIGHTING MEASURES**

<b>Suitable Extinguishing Media</b>	Use extinguishing media appropriate to surrounding fire.
<b>Unsuitable Extinguishing Media</b>	Not available

## **L. CLASSIFICATION AND LABELLING**

<b>Pictogram</b>	
<b>Unsuitable Extinguishing Media</b>	Not available
<b>Hazard Statement</b>	<p><b>H301+H311+H331</b> Toxic if swallowed, in contact with skin or if inhaled</p> <p><b>H318</b> Causes serious eye damage</p>
<b>Precautionary Statement</b>	<p><b>P261</b> Avoid breathing dust/fume/gas/mist/vapours/spray</p> <p><b>P271</b> Use only outdoors or in a well-ventilated area.</p> <p><b>P270</b> Do not eat, drink or smoke while using this product.</p> <p><b>P280</b> Wear protective gloves/protective clothing/eye protection/ face protection.</p> <p><b>P264</b> Wash face, hands and any exposed skin thoroughly after handling.</p> <p><b>P301+P310</b> IF SWALLOWED: Immediately call a POISON CENTRE or doctor/physician if you feel unwell.</p> <p><b>P330</b> Rinse mouth.</p> <p><b>P302+P352</b> IF ON SKIN: Wash with plenty of soap and water.</p> <p><b>P312</b> Call a POISON CENTRE or doctor/physician if you feel unwell.</p> <p><b>P332+P313</b> If skin irritation occurs: Get medical advice/attention.</p> <p><b>P361+P364</b> Take off immediately all contaminated clothing</p>



Potassium Fluoride

	<p>and wash it before reuse. <b>P304+P340</b> IF INHALED: Remove victim to fresh air and keep at rest in comfortable position for breathing. <b>P305+P351+P338</b> IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. <b>P337+P313</b> If eye irritation persists: Get medical advice/attention. <b>P311</b> Call a POISON CENTRE or doctor/physician. <b>P403+P233</b> Store in a well-ventilated place. Keep container tightly closed. <b>P405</b> Store locked up. <b>P501</b> Dispose of contents/container to an approved waste disposal plant. Causes severe skin burns and eye damage</p>
Signal word	Danger

## M. BASIC TRANSPORT INFORMATION

UN Number	UN1812
1 UN Proper Shipping Name	Potassium fluoride, solid
Transport hazard class (es)	6.1
Packaging Group	III
Environmental hazards	Not Available

## N. REGULATORY INFORMATION

- ✓ Safety, health and environmental regulations/legislation specific for the Substance Listed on the United States TSCA (Toxic Substances Control Act) inventory  
SARA Section 311/312 Hazard Classes  
Health hazard - Acute toxicity (any route of exposure)

Chemical Safety Assessment	For this product a chemical safety assessment was not carried out .
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## O. CONCLUSIONS

- ✓ In organic chemistry, KF can be used for the conversion of Chlorocarbons into fluorocarbons, via the Finkelstein (alkyl halides) and Halex reactions (aryl chlorides).
- ✓ By applying the appropriate Risk Management measures the concentrations to be expected at workplaces and to the general public are below recommended exposure limits.



## **P. CONTACT INFORMATION**

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## **Q. DISCLAIMER**

- ✓ Arise in connection with then use of this material. The above information and recommendations provided in GPS safety summary only concern to the specific product as described above and may not apply for the same material if used in combination with any other material or any process.
- ✓ They are in good faith as recommendations only and based on data which is available globally. GFL (Gujarat Fluorochemicals Ltd not imply any guarantee concerning the accuracy and validity and accepts no responsibility for any damage or loss that might