



# MADRAS FLUORINE PRIVATE LTD



## Safety Data Sheet POTASSIUM ZIRCONIUM FLUORIDE

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION		
<b>PRODUCT NAME</b>	:	Potassium Zirconium Fluoride
<b>OTHER/GENERIC NAMES:</b>	:	Potassium Fluorozirconate, Potassium Hexafluorozirconate, Dipotassium Zirconium Hexafluoride.
<b>PRODUCT CODES</b>	:	878 001
<b>PRODUCT USE</b>	:	Constituent in aluminium master alloys, Special fluxes , Laboratory chemicals, Manufacture of substances
<b>UN NO</b>	:	3288
<b>Packing Group</b>	:	III
<b>Contact Information</b>	<b>OFFICE :</b> Madras Fluorine Private Ltd No.71, 4 <sup>th</sup> Main Road Gandhi Nagar, Adyar Chennai 600 020, India E-mail : <a href="mailto:exim@mfpflfluorine.com">exim@mfpflfluorine.com</a>	<b>FACTORY</b> Madras Fluorine Private Ltd Express Highway Manali Chennai – 600 068, India
<b>Emergency Telephone No:</b>	<b>+91 44 2442 6830 / 2442 0654</b> <b>MON – FRI : 9.30 AM – 6.00 PM</b>	<b>MON – SAT : 9.00 AM – 5.30 PM</b>

### SECTION 2 : HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 3), H301  
Skin irritation (Category 2), H315  
Eye irritation (Category 2), H319  
Specific target organ toxicity - single exposure (Category 3), H335

For the full text of the H-Statements mentioned in this Section, see Section 16.



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## Label elements

### Labelling according Regulation (EC) No 1272/2008

#### Pictogram



#### Signal word

Danger

#### Hazard statement(s)

H301 Toxic if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

#### Precautionary statement(s)

P261 Avoid breathing dust.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### Supplemental Hazard Statements

None

#### Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Strong hydrogen fluoride-releaser

## SECTION 3 : COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENT NAME:	FORMULA	WT.PERCENT	CAS #
Potassium Fluorozirconate	$K_2ZrF_6$	97.0	16923-95-8

Trace impurities and additional material names not listed above may also appear in Section 15 towards the end of the MSDS. These materials may be listed for local "Right-to-Know" compliance and for other reasons.

**OSHA Hazard Communication Standard:** *This product is considered hazardous under the OSHA Hazard Communication Standard*



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## SECTION 4 : FIRST AID MEASURES

### Inhalation:

- Remove the subject from the contaminated area as soon as possible; transport him/her lying down, with the head higher than the body, to a quiet, uncontaminated and well-ventilated location.
- Administer oxygen or cardiopulmonary resuscitation if necessary.
- Keep warm (blanket).
- Consult a physician in all cases. / Take to a hospital

### Eyes:

- Flush eyes as soon as possible with running water for 15 minutes, while keeping the eyelids wide open.
- Consult an ophthalmologist immediately in all cases.
- Take to a hospital immediately.
- Rinse the eyes with calcium gluconate (1% solution in physiological serum) (10 ml of calcium gluconate 10% in 90 ml of physiological serum).
- In case of difficulty opening the lids, administer an analgesic eyewash (oxybuprocaine).

### Skin:

- Remove contaminated shoes, socks and clothing, under the shower if necessary; wash the affected skin with running water.
- Immediately apply calcium gluconate gel (2.5%) and massage into the affected area using rubber gloves; continue to massage while repeatedly applying gel until 15 minutes after pain is relieved.
- If fingers/fingernails are touched, even if there is no pain, dip them in a bath of 5% calcium gluconate for 15 to 20 minutes.
- Keep warm (blanket); provide clean clothing.
- Consult a physician in all cases.

### Ingestion:

#### General recommendations:

- Consult a physician immediately in all cases
- Take to a hospital immediately
- Do not induce vomiting

#### If the subject is completely conscious:

- Rinse mouth with fresh water
- Give a 1% aqueous calcium gluconate solution to drink
- Do not induce vomiting
- If the subject presents nervous, respiratory or cardiovascular disorders administer oxygen

#### If the subject is unconscious:

- NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.
- Administer classical resuscitation measures.



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## SECTION 5 : FIRE-FIGHTING MEASURES

### FLAMMABLE PROPERTIES :

Flash point : Not Flammable

Auto-ignition Temperature : Not applicable

Flammability Limits : Not applicable.

Unusual Fire and Explosion Hazards : None.

### Extinguishing Methods:

**Common:** In case of fire in close proximity, all means of extinguishing are acceptable (subject to section below).

**Inappropriate extinguishing means:** No restriction.

### Fire Fighting Procedures:

#### Specific hazards:

- Non-combustible/non-flammable, but may produce dangerous fumes if involved in fire.
- Formation of dangerous gas/vapors in case of decomposition (see section 10).
- Formation of flammable gas on contact with certain metals (see section 10).

#### Protective measures in case of intervention:

- Evacuate all non-essential personnel.
- Intervention only by capable personnel who are trained and aware of the hazards of the product.
- In all cases wear self-contained breathing apparatus.
- When intervention in close proximity, wear full protective acid-resistant suit.
- Protect intervention team with water spray when approaching the fire.
- After intervention, take a shower, remove clothing carefully, clean and check equipment.

#### Other precautions:

- If safe to do so, remove the exposed containers, or cool with large quantities of water.
- Approach from upwind.
- Disperse gas/vapors with water spray.
- After the fire, proceed rapidly to clean the surfaces exposed to the fumes in order to limit the damage to the equipment.
- As for any fire, ventilate and clean the rooms before reentry.

## SECTION 6 : ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.



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## SECTION 7 : HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

### Conditions for safe storage, including any incompatibilities

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

## SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

### Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

##### Eye/face protection

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).

##### 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

Complete suit protecting against chemicals, 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 (EN 143) respirator cartridges as a backup to engineering controls. If th full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.



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## SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE</b>	White Powder.
<b>PHYSICAL STATE</b>	Solid.
<b>MOLECULAR WEIGHT</b>	283.4
<b>CHEMICAL FORMULA</b>	$K_2ZrF_6$
<b>ODOR</b>	Odorless
<b>SPECIFIC GRAVITY (H<sub>2</sub>O = 1)</b>	1100-1200 kg/m <sup>3</sup> (bulk density)
<b>SOLUBILITY IN WATER (weight %)</b>	12.7 g/l @ 68°F (20°C)
<b>PH</b>	4-5 (saturated solution)
<b>BOILING POINT</b>	Not applicable
<b>MELTING POINT</b>	1436 °F (780 °C)
<b>VAPOR PRESSURE</b>	Not applicable.
<b>VAPOR DENSITY (air= 1.0)</b>	Not applicable.
<b>EVAPORATION RATE</b>	Not applicable
<b>COMPARED TO</b>	Not Applicable
<b>% VOLATILES</b>	Not applicable.
<b>FLASH POINT</b>	Not applicable.

(Flash point method and additional flammability data are found in Section 5.)

## SECTION 10 : STABILITY AND REACTIVITY

### **NORMALLY STABLE/(CONDITIONS TO AVOID):**

Stable under normal conditions.

### **INCOMPATIBILITIES:**

Contact with strong acids liberates hydrogen fluoride.

### **HAZARDOUS DECOMPOSITION PRODUCTS:**

Thermal decomposition may generate oxides of potassium, titanium and hydrogen fluoride.

### **HAZARDOUS POLYMERIZATION:**

Will not occur.

## SECTION 11 : TOXICOLOGICAL INFORMATION

### **Information on toxicological effects**

#### **Acute toxicity**

LD50 Oral - mouse - 98 mg/kg

Remarks: Behavioral: Muscle contraction or spasticity. Lungs, Thorax

#### **Skin corrosion/irritation**

No data available

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

No data available



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### Respiratory or skin sensitization

No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

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

Inhalation - May cause respiratory irritation.

### Specific target organ toxicity - repeated exposure

No data available

### Aspiration hazard

No data available

### Potential health effects

**Inhalation** May be harmful if inhaled. Causes respiratory tract irritation.

**Ingestion** Toxic if swallowed.

**Skin** May be harmful if absorbed through skin. Causes skin irritation.

**Eyes** Causes serious eye irritation.

### Additional Information

RTECS: ZH702840

## SECTION 12 : ECOLOGICAL INFORMATION

**Toxicity** No data available

**Persistence and degradability** No data available

**Bioaccumulative potential** No data available

**Mobility in soil** No data available(Dipotassium hexafluorozirconate)

### Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**Other adverse effects** No data available



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## SECTION 13 : DISPOSAL CONSIDERATIONS

**Waste treatment:** Consult current federal, state and local regulations regarding the proper disposal of this material.

**Packaging treatment:**

- Consult current federal, state and local regulations regarding the proper disposal of emptied containers.
- Rinse the empty containers with alkaline water and treat the effluent in the same way as waste.
- Dispose of the containers by dispatching them to an approved incineration facility for hazardous waste.

**RCRA Hazardous Waste:** Listed as D002 (Corrosive).

## SECTION 14 : TRANSPORT INFORMATION

**UN number**

ADR/RID: 3288

IMDG: 3288

IATA: 3288

**UN proper shipping name**

ADR/RID: TOXIC SOLID, INORGANIC, N.O.S.

IMDG: TOXIC SOLID, INORGANIC, N.O.S.

IATA: TOXIC SOLID, INORGANIC, N.O.S.

**Transport hazard class(es)**

ADR/RID: 6.1

IMDG: 6.1

IATA: 6.1

**Packaging group**

ADR/RID: III

IMDG: III

IATA: III

**Environmental hazards**

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

**Special precautions for user**

No data available

## SECTION 15 : REGULATORY INFORMATION

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

**Chemical safety assessment**

For this product a chemical safety assessment was not carried out





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## SECTION 16 : OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

- H301 Toxic if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

References: Not available.

Other Special Considerations: Not available.

Creation Date : 18.9.2000

Disclaimer:

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