Safety Data Sheet

POTASSIUM ZIRCONIUM FLUORIDE

SECTION 1 : CHEMICAL PRODUCT AND COMPANY IDENTIFICATION		
PRODUCT NAME :	Potassium Zirconium Fluoride	
OTHER/GENERIC NAMES:	Potassium Fluorozirconate, Potassium Hexafluorozirconate, Dipotassium Zirconium Hexafluoride.	
PRODUCT CODES :	878 001	
PRODUCT USE :	Constituent in aluminium master alloys, Special fluxes , Laboratory chemicals, Manufacture of substances	
UN NO :	3288	
Packing Group :	III	
Contact Information	**OFFICE :** **Madras Fluorine Private Ltd** No.71, 4th Main Road Gandhi Nagar, Adyar Chennai 600 020, India E-mail : exim@mfplfluorine.com	**FACTORY** **Madras Fluorine Private Ltd** Express Highway Manali Chennai – 600 068, India
Emergency Telephone No:	**+91 44 2442 6830 / 2442 0654** **MON – FRI : 9.30 AM – 6.00 PM**	**+91 44 3290 0358 / 2901 1768** **MON – SAT : 9.00 AM – 5.30 PM**

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.

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*

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.

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.

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.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	White Powder.
PHYSICAL STATE	Solid.
MOLECULAR WEIGHT	283.4
CHEMICAL FORMULA	K_2ZrF_6
ODOR	Odorless
SPECIFIC GRAVITY (H2O = 1)	1100-1200 kg/m3 (bulk density)
SOLUBILITY IN WATER (weight %)	12.7 g/l @ 68oF (20oC)
PH	4-5 (saturated solution)
BOILING POINT	Not applicable
MELTING POINT	1436 oF (780 oC)
VAPOR PRESSURE	Not applicable.
VAPOR DENSITY(air= 1.0)	Not applicable.
EVAPORATION RATE	Not applicable
COMPARED TO	Not Applicable
% VOLATILES	Not applicable.
FLASH POINT	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

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

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. (Dipotassium hexafluorozirconate)
IMDG: TOXIC SOLID, INORGANIC, N.O.S. (Dipotassium hexafluorozirconate)
IATA: TOXIC SOLID, INORGANIC, N.O.S. (Dipotassium hexafluorozirconate)

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

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

Revision Date : 25.7.2006

Disclaimer:

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