# **OTTO CHEMIE PVT LTD**

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-----ISO 9001: 2015----

# MATERIAL SAFETY DATA SHEET

# **SECTION 1 Product identifiers**

Product name : Zirconium(IV) fluoride, 99.99% Product Code: Z 7185 Cas No: 7783-64-4

#### SECTION 2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Ha	azard Communication Standard (29 CFR 1910.1200)
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system.	
Label Elements	
Signal Word	
Danger	
Hazard Statements	
Causes severe skin burns and eye damage	
May cause respiratory irritation	
Precautionary Statements	
Prevention	
Do not breathe dust/fume/gas/mist/vapors/spray	
Wash face, hands and any exposed skin thoroughly after hand	
Wear protective gloves/protective clothing/eye protection/face	protection
Use only outdoors or in a well-ventilated area	
Response	
Immediately call a POISON CENTER or doctor/physician	
Inhalation	
IF INHALED: Remove victim to fresh air and keep at rest in a	position comfortable for breathing
Skin	
IF ON SKIN (or hair): Take off immediately all contaminated cl	lothing. Rinse skin with water/shower
Wash contaminated clothing before reuse	
Eyes	
IF IN EYES: Rinse cautiously with water for several minutes. F	Remove contact lenses, if present and easy to do.
ContinuerinsingIngestion	-th
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting	
Storage	
Store locked up	
Store in a well-ventilated place. Keep container tightly closed	
Disposal	
Dispose of contents/container to an approved waste disposal	plant
Hazards not otherwise classified (HNOC)	
None identified	

# SECTION 3. Composition/Information on Ingredients

Component	CAS No	Weight %						
Zirconium fluoride (ZrF4), (T-4)-	7783-64-4	>95						

#### SECTION 4. First-aid measures

General Advice	Show this safety data sheet to the doctor in attendance. Immediate medical attentionisrequired.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
	Immediate medical attention is required. Keep eye wide open while rinsing.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminatedclothes and shoes. Call a physician immediately.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Call a physicianor poisoncontrol center immediately. Do not use mouth-to-mouth method if victimingestedor inhaledthe substance; give artificial respiration with the aid of a pocket mask equippedwithaone-way valve or other proper respiratory medical device.
Ingestion	Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

Most important symptoms and

effects Causes burns by all exposure routes. Notes to Physician Treat symptomatically

#### **SECTION 5. Fire-fighting measures**

Suitable Extinguishing Media CO 2, dry chemical, dry sand, alcohol-resistant foam. Unsuitable Extinguishing Media No information available

Flash Point No information available

Method - No information available

Autoignition Temperature No information available

Explosion Limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

The product causes burns of eyes, skin and mucous membranes. Hazardous Combustion Products

Hydrogen fluoride. Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) andfull protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA

Health	Flammability	Instability	Physical hazards
3	0	1	N/A

#### **SECTION 6.** Accidental release measures

Personal Precautions Use personal protective equipment as required. Evacuate personnel to safe areas. Avoidcontact with skin, eyes or clothing.

Environmental Precautions Should not be released into the environment. Do not allow material to contaminategroundwater system. Methods for Containment and Clean Up Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

#### **SECTION 7. Handling and storage**

Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/faceprotection. Use only under Handling a chemical fume hood. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance.

Storage. Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Corrosivesarea. Incompatible

Materials. Strong oxidizing agents. Strong acids.

#### SECTION 8. Exposure controls / personal protection

Exposure Guidelines				
Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Zirconium fluoride (ZrF4), (T-4)	TWA: 5 mg/m3 TWA: 2.5 mg/m3 STEL: 10 mg/m3	(Vacated) TWA: 5 mg/m3 (Vacated) TWA: 2.5 mg/m3 (Vacated) STEL: 10 mg/m	IDLH: 25 mg/m3 IDLH: 250 mg/m3 TWA: 5 mg/m3 STEL: 10 mg/m3	TWA: 5 mg/m3 TWA: 2.5mg/m3 STEL: 10 mg/m3

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

Ensure adequate ventilation, especially in confined areas. Ensure that eyewashstationsand Engineering Measures

showers are close to the workstation location. Personal Protective Equipment

Wear appropriate protective eyeglasses or chemical safety goggles as describedbyOSHA's eye Eye/face Protection face protection regulations in 29 CFR 1910.133 or EuropeanStandardEN166. Wear appropriate protective gloves and clothing to prevent skin exposure. Skin and body protection **Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or EuropeanStandardEN 149. Use

a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** 

Handle in accordance with good industrial hygiene and safety practice.

#### **SECTION 9.** Physical and chemical properties

Physical State Powder	Solid
Appearance	White
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Range	640 °C / 1184 °F
Boiling Point/Range	905 °C / 1661 °F
Flash Point	No information available
Evaporation Rate	Not applicable

Flammability (solid,gas) Flammability or explosive limits Upper Lower Vapor Pressure Vapor Density Specific Gravity Solubility Partition coefficient; n-octanol/water Autoignition Temperature **Decomposition Temperature** Viscosity Not applicable Molecular Formula Molecular Weight

# **SECTION 10. Stability and reactivity**

**Reactive Hazard** Stability Conditions to Avoid Incompatible Materials Hazardous Decomposition Products Hazardous Polymerization Hazardous Reactions

None known, based on information available Hygroscopic. Incompatible products. Exposure to moist air or water. Strong oxidizing agents, Strong acids Hydrogen fluoride Hazardous polymerization does not occur None under normal processing

# **SECTION 11: Toxicological information**

11.1 Information on toxicological effects Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals: Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L. Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available. Special Remarks on other Toxic Effects on Humans. Not available.

# **SECTION 12. Ecological information**

Ecotoxicity

Do not empty into drains.

Persistence and Degradability Soluble in water Persistence is unlikely based on information available. Bioaccumulation/ No information available. Accumulation Mobility

No information available

1.388 g/100ml water

No data available

F4 Zr

167.21

No data available

No data available

Not applicable

Will likely be mobile in the environment due to its water solubility.

# **SECTION 13. Disposal considerations**

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, andnational hazardous waste regulations to ensure complete and accurate classification.

## **SECTION 14. Transport information**

DOT UN-No UN3260 Proper Shipping Name Corrosive solid, acidic, inorganic, n.o.s. Technical Name Zirconium fluoride (ZrF4), (T-4)- Hazard Class 8 Packing Group II

TDG UN-No UN3260 Proper Shipping Name Corrosive solid, acidic, inorganic, n.o.s. Hazard Class 8 Packing Group II IATA UN-No UN3260 Proper Shipping Name Corrosive solid, acidic, inorganic, n.o.s. Hazard Class 8 Packing Group II IMDG/IMO UN-No UN3260 Proper Shipping Name Corrosive solid, acidic, inorganic, n.o.s. Hazard Class 8 Packing Group II

#### **SECTION 15. Regulatory information**

United States of America Inventor	у			
Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA RegulatoryFlags
Zirconium fluoride (ZrF4), (T-4)-	7783-64-4	Х	ACTIVE	-
Legend:				

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea(KECL)

		Component	CAS	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
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	No									
Zirconium fluoride (ZrF4), (T-4)-	7783- 64-4	Х	-	232-018-1	x	x	x	x	KE- 35655	
KECL - NIER num U.S. Federal Regu SARA 313 Not ap SARA 311/312 Ha CWA (Clean Wate Clean Air Act Not OSHA - Occupatio Health Administrat Not applicable CERCLA Not appl California Propositi	ulations plicable izard Cate or Act) Not applicable onal Safet tion icable	egories S t applica e y and	See section	a 2 for more in	formation	n 65 chemia	cals. U.S. S	tate Right-i	to-Know	
Regulations Component	Massa	chusetts	s Nev	v Jersey	Penns	Ivania	Illinois		Rhode	sland
Zirconium fluoride (ZrF4), (T-4)-					X					
U.S. Department of Reportable Quanti DOT Marine Pollut DOT Severe Marin U.S. Department of Security This product does Mexico - Grade No Authorisation/Rest	ity (RQ): N tant N ne Polluta of Homela not conta o informat	N nt N nd iin any D ion avai	lable							C
Component	ACH (1907 ex XIV - stances Si norization	/2006) -	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances			REACH Regulation (EC1907/2006) arti CandidateList of Su of Very HighConce (SVHC)		rticle 59 - Substances		
Zirconium fluoride (T-4)-	(ZrF4),	Ê				stricted. Se ik for restric )				

#### Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.