

MATERIAL SAFETY DATA SHEET

TKG® DF (PVDF)

Section 1. COMPANY AND PRODUCT IDENTIFICATION

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Material Name: TKG® DF
PVDF. VINYLIDINE FLUORIDE POLYMER

Section 2. COMPOSITION / INFORMATION ON COMPONENTS

MATERIAL	CAS Number	Concentration
VINYLIDINE FLUORIDE POLYMER	24937-79-9	100%
ETHENE,1,1-DIFLUORO-, HOMOPLOYMER		

Section 3. HAZARDS IDENTIFICATION

Ingestion: Not a probable route of exposure.

Skin: Molten material will cause thermal burns.

Eye: Mechanical irritation only.

Inhalation: Stock shapes are not respirable but machining may generate a nuisance dust which can cause mechanical irritation to the eyes, skin, nose and throat.

Section 4. FIRST AID MEASURES

Inhalation: If dust or vapors are inhaled, remove to fresh air. If breathing is difficult, give oxygen and get medical attention.

Skin: Wash skin with soap and plenty of water.
If molten material contacts skin, cool rapidly with cold water. Do not attempt to peel material from skin.
Obtain medical attention to thermal burn.

Eye: Flush eyes with water. Consult a physician if symptoms persist.

Generic first aid: GENERIC FIRST AID: FOR HYDROGEN FLUORIDE(HF). IF THERMAL DECOMPOSITION OF THIS PRODUCT OCCURS RELEASING HF, ADDITIONAL FIRST AID MEASURES ARE REQUIRED. HF DECOMPOSITION BY-PRODUCT IS EXTREMELY CORROSIVE AND CAN CAUSE SEVERE BURNS WHICH MAY NOT BE IMMEDIATELY VISIBLE OR PAINFUL. EXPOSURE TO HF MAY BE FATAL IF ABSORBED THROUGH THE SKIN, INHALED OR SWALLOWED. IN ALL CASES OF MAJOR HYDROGEN FLUORIDE EXPOSURE (INCLUDING SKIN BURNS ABOUT THE SIZE OF THE PALM OF THE HAND) HYPOCALCEMIA MAY BE PRESENT. MONITOR CALCIUM LEVELS FREQUENTLY AND EKG FOR SIGNS OF CALCIUM DEPLETION. PATIENTS WITH BURNS OF THE NECK OR FACE, OR WITH SIGNS OF RESPIRATORY IRRITATION, SHOULD BE MONITORED FOR DELAYED PULMONARY EDEMA,AND EDEMA OF THE UPPER AIRWAY WITH RESPIRATORY ODSTRUCTION. RESPIRATORY CARE SHOULD BE CLOSELY SUPERVISED AND MAY INCLUDE FURTHER ADMINISTRATION OF 2.5% CALCIUM GLUCONATE BY NEBULIZATION. DO NOT ADMINISTER LOCAL ANESTHETICS AFTER SKIN CONTACT AS THE

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LEVEL OF PAIN IS AN INDICATION OF THE EFFECTIVENESS OF THE CALCIUM GLUCONATE TREATMENT. IF PAIN CONTINUES LONGER THAN 30 MINUTES, CONSIDER INJECTING CALCIUM GLUCONATE (5%) INTO THE SKIN AND SUBCUTANEOUS TISSUE BENEATH, AROUND AND WITHIN THE AFFECTED AREA. IF INGESTION OCCURS, DO NOT INDUCE VOMITING. ADMINISTER 4 TO 8 OUNCES OF WATER FOLLOWED BY 2 TO 4 OUNCES OF AN ANTACID CONTAINING CALCIUM OR MAGNESIUM.

FIRST AID SUPPLIES FOR HYDROGEN FLUORIDE:

USE OF THE FOLLOWING MATERIALS HAS BEEN SHOWN TO BE USEFUL FOR HF TREATMENT AS EXPLAINED ABOVE:

2.5% CALCIUM GLUCONATE GEL
1.0% CALCIUM GLUCONATE IN SALINE OCULAR SOLUTION
2.5% CALCIUM GLUCONATE IN SALINE INHALANT
ANTACID CONTAINING CALCIUM OR MAGNESIUM

Section 5. FIRE FIGHTING MEASURES

Flashpoint: Not applicable.

Hazardous decomposition products: When burned, the following hazardous products of combustion can occur: Oxides of carbon and hydrogen fluoride.

Special fire fighting instructions: Fire fighters and others exposed to products of combustion should wear full protective clothing including self-contained breathing apparatus. Fire fighting equipment should be thoroughly decontaminated after use.

Extinguishing media: Water spray, carbon dioxide, foam or dry chemical.

Physical health Hazards: Dust may form explosive mixtures with air. Avoid dust formation and control ignition sources. All plastics dust particles suspended in air are combustible and may be explosive. Keep away from heat, sparks, flame, and other ignition sources. Prevent dust accumulations and dust clouds. Employ grounding, venting, and explosive relief provisions in accordance with accepted engineering practices and NFPA provisions in any process capable of generating dust and/or static electricity. Explosion hazards apply only to dusts, not granular forms of this product.

Section 6. ACCIDENTAL RELEASE MEASURES

Spill or release: Clean up by vacuuming or sweeping to prevent falls.

Section 7. HANDLING AND STORAGE

General advice: Dry storage. Keep containers closed to prevent contamination.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye: Safety glasses are recommended to prevent particulate matter from entering eyes while grinding or machining.

Skin: Protective gloves are required when handling hot polymer. Also, long sleeve cotton shirt and long pants if handling molten polymer.

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- Ventilation:** Local exhaust at processing equipment to keep particulates below 15 mg/m³, the OSHA limit for nuisance dusts. Grinding and machining of parts should be reviewed to assure that particulate levels are kept at recommended levels.
- Respirator:** If dust is generated and ventilation is inadequate, use NIOSH/MSHA certified respirator which will protect against dust.
- Work / hygiene practices:** Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Material shavings on hard surface can be a serious slipping/falling hazard. Use care when walking shavings.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance:** Stock shape may be rod, plate or tube form.
- Odour:** Essentially odourless.
- Melting point:** 165°C – 172°C
- Solubility in water:** Negligible
- Volatile content %:** None
- Specific gravity:** 1.76 – 1.80

Section 10. STABILITY AND REACTIVITY

- Stability at room temperature:** Stable.
- Conditions to avoid:** None known.

Section 11. TOXICOLOGICAL INFORMATION

- Chronic toxicity:** Information not available for this material.
- Carcinogenicity:** None known.

Section 12. ECOLOGICAL INFORMATION

- Aquatic toxicity:** Toxicity is expected to be low based on insolubility of polymer in water.

Section 13. DISPOSAL CONSIDERATIONS

- Spill or release:** Clean up by vacuuming or wet sweeping to minimize dust exposure.
- Waste disposal:** Recycling is encouraged, Landfill or incineration in compliance with Federal, State, and Local regulations.

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Section 14. TRANSPORTATION INFORMATION

Hazard class: NA

Shipping name: NA

Section 15. REGULATORY INFORMATION

SECTION 313 SUPPLIER NOTIFICATION
(SARA TITLE III-TOXIC CHEMICALS LIST):

This product contains the hazardous chemicals mentioned in SECTION 2 of this MSDS for routine annual "TOXIC CHEMICAL RELEASE REPORTING" of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372.

Section 16. OTHER INFORMATION

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