

**SAFETY DATA SHEET**  
**KYNAR FLEX® 2800-00**

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Company**

Arkema Inc.  
900 First Avenue  
King of Prussia, Pennsylvania 19406

Fluoropolymers Division

Customer Service Telephone Number: (800) 932-0420  
(Monday through Friday, 8:00 AM to 5:00 PM EST)

**Emergency Information**

Transportation: CHEMTREC: (800) 424-9300  
(24 hrs., 7 days a week)  
Medical: Rocky Mountain Poison Center: (866) 767-5089  
(24 hrs., 7 days a week)

**Product Information**

Product name: KYNAR FLEX® 2800-00  
Synonyms: Not available  
Molecular formula: (C3F6.C2H2F2)<sub>x</sub>  
Chemical family: fluoropolymer  
Product use: Resins for :, Mouldings and Extrusion

**2. HAZARDS IDENTIFICATION**

**Emergency Overview**

Color: white, translucent  
Physical state: solid  
Form: pellets  
Odor: none

**\*Classification of the substance or mixture:**  
Not a hazardous substance or mixture.

**GHS-Labeling**

**Supplemental Hazard Statements:**

Processing may release vapors and/or fumes which cause eye, skin and respiratory tract irritation.

**Supplemental information:**

**Potential Health Effects:**

The product, in the form supplied, is not anticipated to produce significant adverse human health effects.  
Contains high molecular weight polymer(s). Decomposition gives toxic and corrosive products. Effects due to processing releases: Irritating to eyes, respiratory system and skin. Inhalation of fume may cause flu-like

Product code: K02780

Version 1.2

Issued on: 07/22/2016

Page: 1 / 11

**SAFETY DATA SHEET**  
**KYNAR FLEX® 2800-00**

symptoms.  
Prolonged or repeated exposure may cause: headache, drowsiness, nausea, weakness.(severity of effects depends on extent of exposure) .

**Other:**

Handle in accordance with good industrial hygiene and safety practice. (pellets/granules) This product may release fume and/or vapor of variable composition depending on processing time and temperature. Hazardous decomposition products including toxic and corrosive hydrogen fluoride may be liberated during processing at high temperatures (effects may not be immediately painful or visible).

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS-No.	Wt/Wt	GHS Classification**
1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene	9011-17-0	100 %	Not classified

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

**4. FIRST AID MEASURES**

**4.1. Description of necessary first-aid measures:**

**Inhalation:**

If inhaled, remove victim to fresh air.

**Skin:**

In case of contact, immediately flush skin with plenty of water. If molten polymer gets on the skin, cool rapidly with cold water. Do not peel solidified product off the skin. Obtain medical treatment for thermal burns. Remove material from clothing. Wash clothing before reuse. Thoroughly clean shoes before reuse.

**Eyes:**

Immediately flush eye(s) with plenty of water. Obtain medical treatment for thermal burns.

**Ingestion:**

If swallowed, DO NOT induce vomiting. Get medical attention immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

**4.2. Most important symptoms/effects, acute and delayed:**

For most important symptoms and effects (acute and delayed), see Section 2 (Hazard Statements and Supplemental Information) and Section 11 (Toxicology Information) of this SDS.

**4.3. Indication of immediate medical attention and special treatment needed, if necessary:**

**SAFETY DATA SHEET**  
**KYNAR FLEX® 2800-00**

Unless otherwise noted in Notes to Physician, no specific treatment noted; treat symptomatically.

**Notes to physician:**

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 obstruction. Respiratory care should be closely supervised and may include further administration of 2.5% calcium gluconate by nebulization. Do not administer anesthetics after skin contact as the 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 swallowed, 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 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.

**5. FIREFIGHTING MEASURES**

**Extinguishing media (suitable):**

Water spray, Carbon dioxide (CO<sub>2</sub>), Foam, Dry chemical

**Protective equipment:**

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand / NIOSH approved or equivalent).

**Further firefighting advice:**

Fire fighting equipment should be thoroughly decontaminated after use.

**Fire and explosion hazards:**

When burned, the following hazardous products of combustion can occur:  
Carbon oxides  
Hazardous organic compounds  
Hydrogen fluoride

**6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions, Emergency procedures, Methods and materials for containment/clean-up:**

Prevent further leakage or spillage if you can do so without risk. Ventilate the area. Sweep up and shovel into suitable properly labeled containers for prompt disposal. Possible fall hazard – floor may become slippery from leakage/spillage of product. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

**Protective equipment:**

Appropriate personal protective equipment is set forth in Section 8.

SAFETY DATA SHEET  
KYNAR FLEX® 2800-00

**7. HANDLING AND STORAGE**

**Handling**

**General information on handling:**

Avoid breathing dust.  
Avoid breathing processing fumes or vapors.  
Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin, and clothing.

**Storage**

**General information on storage conditions:**

Keep in a dry, cool place. This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage.

**Storage stability – Remarks:**

Stable under recommended storage conditions.

**Storage incompatibility – General:**

Store separate from:

Strong bases

Titanium dioxide

Boron oxide

Titanium dioxide

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Airborne Exposure Guidelines:**

**Particles Not Otherwise Specified / Nuisance Dust (Proprietary)**

US. ACGIH Threshold Limit Values

<b>Form:</b>	Inhalable particles.
Time weighted average	10 mg/m <sup>3</sup>
<b>Form:</b>	Respirable particles.
Time weighted average	3 mg/m <sup>3</sup>

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<b>Form:</b>	Respirable fraction.
PEL:	5 mg/m <sup>3</sup>

<b>Form:</b>	Total dust
PEL:	15 mg/m <sup>3</sup>

US. OSHA Table Z-3 (29 CFR 1910.1000)

Product code: K02780

Version 1.2

Issued on: 07/22/2016

Page: 4 / 11

**SAFETY DATA SHEET**  
**KYNAR FLEX® 2800-00**

---

<b>Form:</b> Time weighted average	Respirable fraction. 15millions of particles per cubic foot of air
<b>Form:</b> Time weighted average	Total dust 50millions of particles per cubic foot of air
<b>Form:</b> Time weighted average	Respirable fraction. 5 mg/m3
<b>Form:</b> Time weighted average	Total dust 15 mg/m3

Only those components with exposure limits are printed in this section. Limits with skin contact designation above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required. Limits with a sensitizer designation above mean that exposure to this material may cause allergic reactions.

**Engineering controls:**

Investigate engineering techniques to reduce exposures below airborne exposure limits or to otherwise reduce exposures. Provide ventilation if necessary to minimize exposures or to control exposure levels to below airborne exposure limits (if applicable see above). If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

**Respiratory protection:**

Avoid breathing dust. Avoid breathing processing fumes or vapors. Where airborne exposure is likely or airborne exposure limits are exceeded (if applicable, see above), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components and substances released during processing. Consult respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure or where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

**Skin protection:**

Processing of this product releases vapors or fumes which may cause skin irritation. Minimize skin contamination by following good industrial hygiene practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after contact with processing fumes or vapors. Wash thoroughly after handling. NOTE: In the event of thermal decomposition resulting in an HF exposure or release, decontamination of the equipment involves the use of protective equipment. Contact an Industrial Hygienist or safety personnel for type of equipment necessary.

**Eye protection:**

Use good industrial practice to avoid eye contact. Processing of this product releases vapors or fumes which may cause eye irritation. Where eye contact may be likely, wear chemical goggles and have eye flushing



**SAFETY DATA SHEET**  
**KYNAR FLEX® 2800-00**

equipment available.

<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>
--

<b>Color:</b>	white, translucent
<b>Physical state:</b>	solid
<b>Form:</b>	pellets
<b>Odor:</b>	none
<b>Odor threshold:</b>	No data available
<b>Flash point</b>	Not applicable
<b>Auto-ignition temperature:</b>	No data available
<b>Lower flammable limit (LFL):</b>	No data available
<b>Upper flammable limit (UFL):</b>	No data available
<b>pH:</b>	Not applicable
<b>Density:</b>	1.770 - 1.790 g/cm <sup>3</sup> (68 °F (20 °C))
<b>Vapor pressure:</b>	Not applicable
<b>Vapor density:</b>	Not applicable
<b>Boiling point/boiling range:</b>	No data available
<b>Melting point/range:</b>	284 - 293 °F (140 - 145 °C)
<b>Freezing point:</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Solubility in water:</b>	68 °F (20 °C) insoluble
<b>Solubility in other solvents: [qualitative and quantitative]</b>	Soluble in:  DIMETHYLACETAMIDE DIMETHYLFORMAMIDE
<b>Viscosity, dynamic:</b>	No data available

Product code: K02780

Version 1.2

Issued on: 07/22/2016

Page: 6 / 11

**SAFETY DATA SHEET**  
**KYNAR FLEX® 2800-00**

<b>Oil/water partition coefficient:</b>	No data available
<b>Thermal decomposition</b>	> 572 °F (> 300 °C)
<b>Flammability:</b>	See GHS Classification in Section 2

**10. STABILITY AND REACTIVITY**

**Stability:**

The product is stable under normal handling and storage conditions.

**Hazardous reactions:**

Hazardous polymerization does not occur.

**Materials to avoid:**

At high temperature : risk of violent reaction (decomposition)

Strong bases  
Titanium dioxide  
Silica (Glass fibre)  
Boron oxide

**Conditions / hazards to avoid:**

Thermal decomposition of polymer will generate hydrogen fluoride (HF). Thermal decomposition of the polymer begins to generate HF at 662 degrees F (350 degrees C) and the evolution of HF becomes rapid at 752 degrees F (400 degrees C). Laboratory testing by Thermogravimetric Analysis (TGA) in nitrogen has shown that polymers provide high polymer thermal stability with decomposition occurring at temperatures above 662°F (350°C). Normal melt processing conditions are typically maintained below 500°F (260°C) and rarely exceed a melt temperature of 525°F (280°C). In most cases, processing polymer can be done without decomposition provided temperatures are maintained below 525°F (280°C). It is understood, however, that even at typical processing temperatures, decomposition can occur if the material is allowed to stagnate for extended periods of time at elevated temperatures. We recommend that you consult your technical personnel if a melt temperature above normal melt processing conditions are being considered, or if there is a concern regarding material stagnation in processing equipment being used.

In the event of polymer decomposition, which can be noted by generation of an acrid smell, significant darkening of the product, black specks in the melt, or under extreme conditions, creation of black char and visible outgassing, it is recommended that the following steps be taken. 1. Turn off the heat source and shut off the polymer feed. Ventilate the area and remove non-essential personnel. 2. If using an extruder, reduce screw speeds and run the equipment dry. Purging the equipment using a high molecular weight polyethylene or polypropylene pure polymer. Avoid using purging compounds that have a silica additive. Note: In case of a major decomposition event, evacuate all personnel immediately and call the emergency number listed on the first page of this SDS.

**Hazardous decomposition products:**

Temperature exceeding 300 °C:  
Thermal decomposition giving toxic and corrosive products :  
Hydrogen fluoride  
Carbon oxides  
Hazardous organic compounds

**SAFETY DATA SHEET**  
**KYNAR FLEX® 2800-00**

**11. TOXICOLOGICAL INFORMATION**

Data on this material and/or its components are summarized below.

**Data for 1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene (9011-17-0)**

**Acute toxicity**

**Skin Irritation:**

Practically non-irritating. (rabbit) (24 h)

**Repeated dose toxicity**

Repeated dietary administration to rat / affected organ(s): liver / signs: changes in organ weights / (similar material)

**Other information**

The information presented is from representative materials with this Chemical Abstract Service (CAS) Registry number. The results vary depending on the size and composition of the test substance.

**12. ECOLOGICAL INFORMATION**

**Chemical Fate and Pathway**

No data are available.

**Ecotoxicology**

No data are available.

**13. DISPOSAL CONSIDERATIONS**

**Waste disposal:**

Where possible recycling is preferred to disposal or incineration. Dispose of in an approved landfill if allowed locally. Incinerate only if the incinerator is fitted to scrub out hydrogen fluoride and other acidic combustion gases. Dispose of in a permitted waste management facility if incineration or landfill is not practical. Pigmented, filled and/or solvent laden product may require special disposal practices in accordance with federal, state and local regulations. Dispose of in accordance with federal, state and local regulations. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits. Note: Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

**14. TRANSPORT INFORMATION**

**US Department of Transportation (DOT):** not regulated

**International Maritime Dangerous Goods Code (IMDG):** not regulated



**SAFETY DATA SHEET**  
**KYNAR FLEX® 2800-00**

**15. REGULATORY INFORMATION**

**Chemical Inventory Status**

EU. EINECS	EINECS	Conforms to
United States TSCA Inventory	TSCA	The components of this product are all on the TSCA Inventory.
Canadian Domestic Substances List (DSL)	DSL	All components of this product are on the Canadian DSL
China. Inventory of Existing Chemical Substances in China (IECSC)	IECSC (CN)	Conforms to
Japan. ENCS - Existing and New Chemical Substances Inventory	ENCS (JP)	Conforms to
Japan. ISHL - Inventory of Chemical Substances	ISHL (JP)	Conforms to
Korea. Korean Existing Chemicals Inventory (KECI)	KECI (KR)	Conforms to
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	PICCS (PH)	The mixture contains a polymer. The monomers for this polymer have been notified., Conforms to
Australia Inventory of Chemical Substances (AICS)	AICS	Conforms to

**United States – Federal Regulations**

**SARA Title III – Section 302 Extremely Hazardous Chemicals:**

The components in this product are either not SARA Section 302 regulated or regulated but present in negligible concentrations.

**SARA Title III - Section 311/312 Hazard Categories:**

No SARA Hazards

**SARA Title III – Section 313 Toxic Chemicals:**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantity (RQ):**

The components in this product are either not CERCLA regulated, regulated but present in negligible concentrations, or regulated with no assigned reportable quantity.

**United States – State Regulations**

Product code: K02780

Version 1.2

Issued on: 07/22/2016

Page: 9 / 11

**SAFETY DATA SHEET**  
**KYNAR FLEX® 2800-00**

**New Jersey Right to Know**

No components are subject to the New Jersey Right to Know Act.

**Pennsylvania Right to Know**

Chemical name

1-Propene, 1,1,2,3,3,3-hexafluoro-, polymer with 1,1-difluoroethene

CAS-No.

9011-17-0

**California Prop. 65**

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive defects.

**16. OTHER INFORMATION**

**Latest Revision(s):**

Revised Section(s):	Wave 2 chapter 4 update
Reference number:	000000027522
Date of Revision:	07/22/2016
Date Printed:	07/22/2016

KYNAR® is a registered trademark of Arkema Inc.

The statements, technical information and recommendations contained herein are believed to be accurate as of the date hereof. Since the conditions and methods of use of the product and of the information referred to herein are beyond our control, ARKEMA expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information; **NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE GOODS DESCRIBED OR THE INFORMATION PROVIDED HEREIN.** The information provided herein relates only to the specific product designated and may not be applicable when such product is used in combination with other materials or in any process. The user should thoroughly test any application before commercialization. Nothing contained herein constitutes a license to practice under any patent and it should not be construed as an inducement to infringe any patent and the user is advised to take appropriate steps to be sure that any proposed use of the product will not result in patent infringement. See SDS for Health & Safety Considerations.

*Arkema has implemented a Medical Policy regarding the use of Arkema products in Medical Devices applications that are in contact with the body or circulating bodily fluids (<http://www.arkema.com/en/social-responsibility/responsible-product-management/medical-device-policy/index.html>) Arkema has designated Medical grades to be used for such Medical Device applications. Products that have not been designated as Medical grades are not authorized by Arkema for use in Medical Device applications that are in contact with the body or circulating bodily fluids. In addition, Arkema strictly prohibits the use of any Arkema products in Medical Device applications that are implanted in the body or in contact with bodily fluids or tissues for greater than 30 days. The Arkema trademarks and the Arkema name shall not be used in conjunction with customers' medical devices, including without limitation, permanent or temporary implantable devices, and customers shall not represent to anyone else, that Arkema allows, endorses or permits the use of Arkema products in such medical devices.*

*It is the sole responsibility of the manufacturer of the medical device to determine the suitability (including biocompatibility) of all raw materials, products and components, including any medical grade Arkema products, in order to ensure that the final end-use product is safe for its end use; performs or functions as intended; and complies with all applicable legal and regulatory requirements (FDA or other national drug agencies) It is the sole responsibility of the manufacturer of the medical device to conduct all necessary tests and inspections and to evaluate the medical device under actual end-use requirements and to adequately advise and warn purchasers, users, and/or learned intermediaries (such as physicians) of pertinent risks and fulfill any postmarket surveillance obligations. Any decision regarding the appropriateness of a particular Arkema material in a particular medical device should be based on the judgment of the manufacturer, seller, the competent authority, and the treating physician.*

Product code: K02780

Version 1.2

Issued on: 07/22/2016

Page: 10 / 11