ARKEMA

KYNAR FLEX® PPA 5300

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® PPA 5300
Synonyms: Not available
Molecular formula: (C3F6.C2H2F2)x
Chemical family: fluoropolymer
Product use: Polymer Processing Aid

SECTION 2: HAZARDS IDENTIFICATION

Emergency Overview

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

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

GHS-Labelling

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 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).

SECTION 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	>= 30 - < 60 %	Not classified
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy-	25322-68-3	>= 30 - < 60 %	Not classified

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

SECTION 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. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed:

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

4.3. Indication of any immediate medical attention and special treatment needed:

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, antiacid containing calcium or magnesium.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media (suitable):
Water spray, Carbon dioxide (CO2), 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.

SECTION 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:
Store protected from moisture and heat. Keep in a dry, cool place. Store out of direct sunlight in a cool well-ventilated 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. Store at temperatures <40°C (<105°F) to prevent irreversible agglomeration and/or thermal decomposition of the pellets

Storage incompatibility – General:
Store separate from:
Powdered metals
Finely divided aluminium
Alkali metals
Alkaline earth metals
Strong oxidizing agents
Strong acids

Strong bases

Temperature tolerance – Do not store above:
104 °F (40 °C)

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Airborne Exposure Guidelines:

Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (25322-68-3)

US. OARS. WEELs Workplace Environmental Exposure Level Guide, as amended

Form:	Aerosol
Time weighted average	10 mg/m3
Form:	Aerosol
Remarks:	Listed

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.

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 equipment available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Color:	white
Physical state:	solid
Form:	pellets
Odor:	none
Odor threshold:	No data available
Flash point	Not applicable
Auto-ignition temperature:	No data available.
Lower flammable limit (LFL):	No data available
Upper flammable limit (UFL):	No data available
pH:	Not applicable
Density:	0.7 g/cm3
Specific Gravity (Relative density):	0.7 (68 °F(20 °C))Water=1 (liquid)
Boiling point/boiling range:	No data available
Melting point/range:	No data available
Freezing point:	No data available
Evaporation rate:	No data available
Solubility in water:	68 °F (20 °C) partly soluble
Solubility in other solvents: [qualitative and quantative]	Soluble in:

DIMETHYLACETAMIDE

DIMETHYLFORMAMIDE

Viscosity, dynamic: No data available

Oil/water partition coefficient: (No data available)

Thermal decomposition: > 572 °F (> 300 °C)

Flammability: See GHS Classification in Section 2 if applicable

SECTION 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:
Powdered metals
Finely divided aluminium
Alkali metals
Alkaline earth metals
Strong oxidizing agents
Strong acids and strong bases

Conditions / hazards to avoid:
Only use this product as a polymer processing aid at addition levels of 100 to 1500 ppm in a polyolefin (for example: LLDPE). At processing temperatures above 250°C - some degradation of the PEG synergist can occur. Avoid prolonged heating above the recommended upper processing limit of 250°C.
During cleaning of equipment small amounts of hazardous gases and/or particulate matter may be released. Avoid flames, welding arcs, potential ignition sources, or other high temperature sources, which induce thermal decomposition. 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).

Hazardous decomposition products:

Temperature exceeding 60°C:
Thermal decomposition giving flammable and harmful products :
Alcohols
Aldehydes
Carboxylic acids
ethers

Temperature exceeding 300 °C:
Thermal decomposition giving toxic and corrosive products :

Hydrogen fluoride
Carbon oxides
Hazardous organic compounds

SECTION 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.

Data for Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (25322-68-3)

Acute toxicity

Oral:
No deaths occurred. (rat) LD0 > 2,000 mg/kg.

Dermal:
No deaths occurred. (rat) LD0 > 2,000 mg/kg.

Inhalation:
No deaths occurred. (rat, mouse) 6 h LC0 2.5 mg/l.

Skin Irritation:
Practically non-irritating. (rabbit) (4 h) (occluded exposure)

Eye Irritation:
Not irritating. (rabbit)

Skin Sensitization:
Not a sensitizer. Guinea pig maximization test. No skin allergy was observed

Repeated dose toxicity
Subchronic inhalation administration to rat / No adverse systemic effects reported.

Subchronic oral administration to rat and dog / No adverse systemic effects reported.

Genotoxicity

Assessment in Vitro:
No genetic changes were observed in laboratory tests using: bacteria, animal cells

Developmental toxicity
Exposure during pregnancy. Oral (rat) / No birth defects were observed.
Exposure during pregnancy. Dermal (rabbit) / No birth defects were observed.

Reproductive effects
Multiple generation reproduction test. drinking water (rat) / No toxicity to reproduction.

Human experience
Skin contact:
Skin: rash. (subjects with dermatitis or eczema)

Skin: No skin allergy was observed. (studied using human volunteers)

SECTION 12: ECOLOGICAL INFORMATION

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

Data for KYNAR FLEX® PPA 5300

Octanol Water Partition Coefficient:
(No data available)

Data for Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (25322-68-3)

Biodegradation:
Readily biodegradable. (28 d) biodegradation 74.9 %

Octanol Water Partition Coefficient:
log Pow: -0.698, at 86 °F (30 °C) pH = 6.44

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

Data for Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- (25322-68-3)

Aquatic toxicity data:
Practically nontoxic. Poecilia reticulata (guppy) 96 h LC50 > 100 mg/l

Aquatic invertebrates:
Practically nontoxic. Daphnia magna (Water flea) 48 h EC50 > 100 mg/l

SECTION 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.

SECTION 14: TRANSPORT INFORMATION

US Department of Transportation (DOT): not regulated

International Maritime Dangerous Goods Code (IMDG): not regulated

SECTION 15: REGULATORY INFORMATION

Chemical Inventory Status

US. Toxic Substances Control Act	TSCA	The components of this product are all on the Active 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

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):

Chemical name	CAS-No.	Reportable quantity
Acetic acid ethyl ester	141-78-6	5000 lbs

United States – State Regulations

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.

SECTION 16: OTHER INFORMATION

Latest Revision(s):

Reference number:	600000850
Date of Revision:	01/03/2023
Date Printed:	01/04/2023

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