



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Dyneon™ Fluoroelastomer FPO 3620

Product Identification Numbers

98-0213-3611-4, UU-0092-9126-9, UU-0092-9955-1
7100156062, 7100156023, 7100193546

1.2. Recommended use and restrictions on use

Recommended use

Fluoropolymer

1.3. Supplier's details

MANUFACTURER: 3M
DIVISION: Advanced Materials Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000, USA
Telephone: 1-888-3M HELPS (1-888-364-3577)

1.4. Emergency telephone number

1-800-364-3577 or (651) 737-6501 (24 hours)

SECTION 2: Hazard identification

2.1. Hazard classification

Not classified as hazardous according to OSHA Hazard Communication Standard, 29 CFR 1910.1200.

2.2. Label elements

Signal word

Not applicable.

Symbols

Not applicable.

Pictograms

Not applicable.

Supplemental Information:

The health hazards of this material are not completely known. See the SDS. May cause thermal burns.

SECTION 3: Composition/information on ingredients

| Ingredient | C.A.S. No. | % by Wt |
|---|------------|---------------|
| White mineral oil (petroleum) | 8042-47-5 | <= 0.25 |
| Hexafluoropropylene oxide dimer acid (unintentional impurity) | 13252-13-6 | <= 0.00000049 |
| Perfluoropropanoic acid (unintentional impurity) | 422-64-0 | <= 0.00000016 |
| Perfluorooctanoic acid (unintentional impurity) | 335-67-1 | <= 0.00000006 |
| HFP/VDF/TFE Polymer | 25190-89-0 | 100 |

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately flush skin with large amounts of cold water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Cover affected area with a clean dressing. Get immediate medical attention.

Eye Contact:

Immediately flush eyes with large amounts of water for at least 15 minutes. DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Get immediate medical attention.

If Swallowed:

Do not induce vomiting. Rinse mouth. If you feel unwell, get medical attention.

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

No critical symptoms or effects. See Section 11.1, information on toxicological effects.

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode. Exposure to extreme heat can give rise to thermal decomposition.

5.3. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Observe precautions from other sections.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not breathe thermal decomposition products. Avoid skin contact with hot material. For industrial/occupational use only. Not for consumer sale or use. Store work clothes separately from other clothing, food and tobacco products. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) No smoking: Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to the formation of hazardous decomposition products.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from oxidizing agents.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|--|-------------------|----------------------------|------------------------------------|-----------------------------------|
| Perfluorooctanoic acid (unintentional impurity) | 335-67-1 | Manufacturer determined | TWA:0.01 mg/m3 | SKIN |
| MINERAL OILS, HIGHLY- REFINED OILS | 8042-47-5 | ACGIH | TWA(inhalable fraction):5 mg/m3 | A4: Not class. as human carcin |
| Paraffin oil | 8042-47-5 | OSHA | TWA(as mist):5 mg/m3 | |

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

OSHA : United States Department of Labor - Occupational Safety and Health Administration

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure guidelines. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment. Local exhaust required above 400 C.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

None required.

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

Gloves made from the following material(s) are recommended: Neoprene

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - Neoprene

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use a positive pressure supplied-air respirator.

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

Thermal hazards

Wear heat insulating gloves, indirect vented goggles, and a full face shield when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Solid

Color

White

Specific Physical Form:

Solid Block or Slab

Odor

Odorless

Odor threshold

No Data Available

pH

Not Applicable

Melting point

300 °C

Boiling Point

Not Applicable

Flash Point

No flash point

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Classified

Flammable Limits(LEL)

Not Applicable

Flammable Limits(UEL)

Not Applicable

Vapor Pressure

Not Applicable

Vapor Density

Not Applicable

Density

2 g/cm³

Specific Gravity

2 [Ref Std: WATER=1]

Solubility in Water

Negligible

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

No Data Available

Decomposition temperature

No Data Available

Viscosity

No Data Available

Molecular weight

No Data Available

Percent volatile

Not Applicable

SECTION 10: Stability and reactivity**10.1. Reactivity**

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization may occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Al or Mg powder and high/shear temperature conditions
Strong oxidizing agents

10.6. Hazardous decomposition products**Substance****Condition**

| | |
|-------------------------------|--------------------------|
| Tetrafluoroethylene | At Elevated Temperatures |
| Hexafluoropropylene | At Elevated Temperatures |
| Carbonyl Fluoride | At Elevated Temperatures |
| Carbon monoxide | At Elevated Temperatures |
| Carbon dioxide | At Elevated Temperatures |
| Hydrogen Fluoride | At Elevated Temperatures |
| Methyl Iodide | While curing |
| Perfluoroisobutylene (PFIB) | At Elevated Temperatures |
| Toxic Vapor, Gas, Particulate | At Elevated Temperatures |

If the product is exposed to extreme condition of heat from misuse or equipment failure, toxic decomposition products that include hydrogen fluoride and perfluoroisobutylene can occur.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects**Signs and Symptoms of Exposure**

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

During heating:

Polymer Fume Fever: Sign/symptoms may include chest pain or tightness, shortness of breath, cough, malaise, muscle aches, increased heart rate, fever, chills, sweats, nausea and headache.

Skin Contact:

During heating: Thermal Burns: Signs/symptoms may include intense pain, redness and swelling, and tissue destruction.

Eye Contact:

During heating: Thermal Burns: Signs/symptoms may include severe pain, redness and swelling, and tissue destruction.

Ingestion:

No known health effects.

Carcinogenicity:

| Ingredient | CAS No. | Class Description | Regulation |
|------------------------|----------|-------------------------------|---|
| Perfluorooctanoic acid | 335-67-1 | Grp. 2B: Possible human carc. | International Agency for Research on Cancer |

Additional Information:

The health hazards of this material are not completely known. Conservative safe handling measures should be followed (as described in sections 7 and 8), and appropriate first aid measures (as described in section 4) should be taken if exposure occurs.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|--|----------------------------|---------|--|
| HFP/VDF/TFE Polymer | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| HFP/VDF/TFE Polymer | Ingestion | Rat | LD50 > 5,000 mg/kg |
| White mineral oil (petroleum) | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| White mineral oil (petroleum) | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Perfluoropropanoic acid (unintentional impurity) | Ingestion | | LD50 estimated to be 300 - 2,000 mg/kg |
| Perfluoropropanoic acid (unintentional impurity) | Inhalation-Vapor (4 hours) | Rat | LC50 > 11 mg/l |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|-------------------------------|---------|---------------------------|
| HFP/VDF/TFE Polymer | Rabbit | No significant irritation |
| White mineral oil (petroleum) | Rabbit | No significant irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|-------------------------------|-----------------------|---------------------------|
| HFP/VDF/TFE Polymer | Professional judgment | No significant irritation |
| White mineral oil (petroleum) | Rabbit | Mild irritant |

Skin Sensitization

| Name | Species | Value |
|-------------------------------|------------|----------------|
| HFP/VDF/TFE Polymer | Guinea pig | Not classified |
| White mineral oil (petroleum) | Guinea pig | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|--|----------|---------------|
| White mineral oil (petroleum) | In Vitro | Not mutagenic |
| Perfluoropropanoic acid (unintentional impurity) | In Vitro | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|-------------------------------|------------|-------------------------|------------------|
| White mineral oil (petroleum) | Dermal | Mouse | Not carcinogenic |
| White mineral oil (petroleum) | Inhalation | Multiple animal species | Not carcinogenic |

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|-------------------------------|-----------|--|---------|-----------------------|-------------------|
| White mineral oil (petroleum) | Ingestion | Not classified for female reproduction | Rat | NOAEL 4,350 mg/kg/day | 13 weeks |
| White mineral oil (petroleum) | Ingestion | Not classified for male reproduction | Rat | NOAEL 4,350 mg/kg/day | 13 weeks |
| White mineral oil (petroleum) | Ingestion | Not classified for development | Rat | NOAEL 4,350 mg/kg/day | during gestation |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|-----------|---|----------------|---------|-----------------------|-------------------|
| White mineral oil (petroleum) | Ingestion | hematopoietic system | Not classified | Rat | NOAEL 1,381 mg/kg/day | 90 days |
| White mineral oil (petroleum) | Ingestion | liver immune system | Not classified | Rat | NOAEL 1,336 mg/kg/day | 90 days |
| Perfluoropropanoic acid (unintentional impurity) | Ingestion | liver heart endocrine system hematopoietic system kidney and/or bladder | Not classified | Rat | NOAEL 320 mg/kg/day | 28 days |

Aspiration Hazard

| Name | Value |
|-------------------------------|-------------------|
| White mineral oil (petroleum) | Aspiration hazard |

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information**Ecotoxicological information**

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include HF. Facility must be capable of handling halogenated materials.

EPA Hazardous Waste Number (RCRA): Not regulated

SECTION 14: Transport Information

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: Regulatory information

15.1. US Federal Regulations

This material contains one or more substances that are subject to a TSCA Consent Order. Contact 3M for more information.

EPCRA 311/312 Hazard Classifications:

Physical Hazards

Not applicable

Health Hazards

Not applicable

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

| <u>Ingredient</u> | <u>C.A.S. No</u> | <u>% by Wt</u> |
|---|------------------|----------------|
| Hexafluoropropylene oxide dimer acid (unintentional impurity) | 13252-13-6 | <= 0.00000049 |
| Perfluoropropanoic acid (unintentional impurity) | 422-64-0 | <= 0.00000016 |
| Perfluorooctanoic acid (unintentional impurity) | 335-67-1 | <= 0.00000006 |

This material contains a chemical which requires export notification under TSCA Section 12[b]:

| <u>Ingredient (Category if applicable)</u> | <u>C.A.S. No</u> | <u>Regulation</u> | <u>Status</u> |
|---|------------------|--|---------------|
| Hexafluoropropylene oxide dimer acid (unintentional impurity) | 13252-13-6 | Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals | Applicable |
| Perfluorooctanoic acid (unintentional impurity) | 335-67-1 | Toxic Substances Control Act (TSCA) 5 SNUR or Consent Order Chemicals | Applicable |

This material contains a chemical regulated by an EPA Significant New Use Rule (TSCA Section 5)

Ingredient (Category if applicable)**C.A.S. No****Reference**

Perfluorooctanoic acid (unintentional impurity)

335-67-1

40 CFR 721.10536

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

Contact 3M for more information.

15.4. International Regulations

Contact 3M for more information.

This SDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.**SECTION 16: Other information****NFPA Hazard Classification****Health:** 3 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

The NFPA Health code of 3 is due to emergency situations where the material may thermally decompose and release Hydrogen Fluoride and Perfluoroisobutylene (PFIB). During normal use conditions, please reference Section 2 and Section 11 of the SDS for additional health hazard information.

HMIS Hazard Classification**Health:** 0 **Flammability:** 1 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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