



A 3M Company

Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Dyneon(TM) Fluoroelastomers FC-2100 Series, FC-3009J, FE-5730, FE 5730P, FE-5731Q, FT-2320, FT-2340Q, FT 2350, FX-2177A, FX-3725, FX-3800, FX-9038, FX-9143, FX-9194, FX-11818, MIP 8640X.

MANUFACTURER: DYNEON

DIVISION: Dyneon

ADDRESS: 6744 33rd St. No.
Oakdale, MN 55128

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

Issue Date: 11/28/2007

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Document Group: 21-6322-8

Product Use:

Intended Use: Fluoropolymer

Grades covered : FC-2110Q, FC-2120, FC-2121, FC-2126Q, FC-2127Q, FC-2170, FC-2173, FC-2174, FC 2176, FC-2176Z, FC-2177, FC-2177D, FC-2179, FC-2180, FC-2181, FC-2181PS, FC-2181Z, FC-2182, FC-3009J, FE-5730, FE-5730P, FE-5731Q, FT-2320, FT-2340Q, FT-2350FX-2177A, FX-3725, FX-3800, FX-9038, FX-9143, FX-9194, FX-11818, MIP-8640X

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
HFP/VDF/TFE Polymer	25190-89-0	0 - 99
Vinylidene Fluoride - Hexafluoropropylene Polymer	9011-17-0	0 - 99
Fluoropolymer	Trade Secret	0 - 25
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	0 - 5
4,4'-Dichlorodiphenyl Sulfone	80-07-9	0 - 5
Triphenylbenzylphosphonium salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	75768-65-9	0 - 5
Additive	Trade Secret	0 - 5

Benzyltriphenylphosphonium Chloride

1100-88-5

0 - 2.5

New Jersey Trade Secret Registry for FLUOROPOLYMER is (EIN) 07490dyn-7052
New Jersey Trade Secret Registry for ADDITIVE is (EIN) 07490dyn-7053

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Solid Block or Slab

Odor, Color, Grade: White-to-straw colored, translucent, rubbery solid.

General Physical Form: Solid

Immediate health, physical, and environmental hazards: May cause severe eye irritation. May cause target organ effects.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Skin Contact:

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

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.

Vapors from heated material may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

If thermal decomposition occurs:

May be harmful if inhaled.

May be absorbed following inhalation and cause target organ effects.

Ingestion:

May be harmful if swallowed.

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
OSHA Flammability Classification:	Not Applicable

5.2 EXTINGUISHING MEDIA

Non-combustible. Choose material suitable for surrounding fire.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Exposure to extreme heat can give rise to thermal decomposition. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: No unusual fire or explosion hazards are anticipated.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. Collect as much of the spilled material as possible. Clean up residue. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

For industrial or professional use only. No smoking: Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to polymer fume fever caused by the formation of the hazardous decomposition products mentioned in the Reactivity Data section of this MSDS. Avoid eye contact with dust or airborne particles. Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Avoid skin contact with hot material. Do not breathe thermal decomposition products. No smoking: Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to the formation of the hazardous decomposition products mentioned in the Reactivity Data section of this MSDS. Store work clothes separately from other clothing, food and tobacco products.

7.2 STORAGE

Store away from areas where product may come into contact with food or pharmaceuticals. Store away from heat.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use with appropriate local exhaust ventilation. Provide appropriate local exhaust when product is heated. 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.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact.

The following eye protection(s) are recommended: Safety Glasses with side shields, Indirect Vented Goggles.

8.2.2 Skin Protection

Avoid skin contact. Avoid skin contact with hot material.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Neoprene, Polyethylene. Wear appropriate gloves when handling hot material to prevent thermal burns.

8.2.3 Respiratory Protection

Avoid breathing of vapors created during extrusion or processing at elevated temperatures.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges and P100 particulate prefilters. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
Additive	CMRG	TWA	5 mg/m ³	

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists
CMRG: Chemical Manufacturer Recommended Guideline
OSHA: Occupational Safety and Health Administration
AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Solid Block or Slab
Odor, Color, Grade:	White-to-straw colored, translucent, rubbery solid.
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	<i>Not Applicable</i>
Flammable Limits - LEL	<i>Not Applicable</i>
Flammable Limits - UEL	<i>Not Applicable</i>
Boiling point	<i>Not Applicable</i>
Density	1.8 g/cm ³
Vapor Density	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	1.8 [Ref Std: WATER=1]
pH	<i>Not Applicable</i>
Melting point	<i>Not Applicable</i>
Solubility in Water	Negligible
Viscosity	<i>Not Applicable</i>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Al or Mg powder and high/shear temperature conditions

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	At Elevated Temperatures
Carbon dioxide	At Elevated Temperatures
Hydrogen Fluoride	At Elevated Temperatures
Perfluoroisobutylene (PFIB)	At Elevated Temperatures
Oxides of Sulfur	At Elevated Temperatures
Toxic Vapor, Gas, Particulate	At Elevated Temperatures

Hazardous Decomposition: Hydrogen fluoride has an ACGIH Threshold Limit Value of 3 parts per million (as fluoride) as a Ceiling Limit and an OSHA PEL of 3 ppm of fluoride as an eight hour Time-Weighted Average and 6 ppm of fluoride as a Short Term Exposure Limit. The odor threshold for HF is 0.04 ppm, providing good warning properties for exposure.

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Reclaim if feasible. To reclaim or return, contact your 3M sales representative.

Dispose of completely cured (or polymerized) material in a facility permitted to accept chemical wastes. Incinerate in an industrial or commercial facility in the presence of a combustible material. Combustion products will include HF. Facility must be capable of handling halogenated materials.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

LB-H000-3009-J, LB-H100-0248-8, 41-2860-1695-5, 70-0711-8101-3, 98-0211-0072-6, 98-0211-0115-3, 98-0211-0220-1, 98-0211-0222-7, 98-0211-0275-5, 98-0211-0358-9, 98-0211-0434-8, 98-0211-0582-4, 98-0211-0835-6, 98-0211-1216-8, 98-0211-1223-4, 98-0211-1706-8, 98-0211-1719-1, 98-0211-1722-5, 98-0211-1723-3, 98-0211-1724-1, 98-0211-1725-8, 98-0211-1726-6, 98-0211-1727-4, 98-0211-1728-2, 98-0211-1729-0, 98-0211-1730-8, 98-0211-1732-4, 98-0211-1738-1, 98-0211-1757-1, 98-0211-1758-9, 98-0211-3505-2, 98-0211-3506-0, 98-0211-3515-1, 98-0211-3516-9, 98-0211-4194-4, 98-0211-4195-1, 98-0211-4981-4, 98-0211-4982-2, 98-0211-5491-3, 98-0211-5492-1, 98-0211-7305-3, 98-0211-7306-1, 98-0211-7371-5, 98-0211-7383-0, 98-0211-7384-8, 98-0211-7952-2, 98-0211-7953-0, 98-0211-7954-8, 98-0211-7955-5, 98-0211-7957-1, 98-0211-7958-9, 98-0211-7959-7, 98-0211-7963-9, 98-0211-7967-0, 98-0211-7969-6, 98-0211-7970-4, 98-0211-7971-2, 98-0211-8028-0, 98-0211-8029-8, 98-0211-8030-6, 98-0211-8867-1, 98-0211-8868-9, 98-0211-9606-2, 98-0211-9607-0, 98-0211-9614-6, 98-0211-9615-3, 98-0211-9616-1, 98-0211-9617-9, 98-0211-9618-7, 98-0211-9619-5, 98-0211-9620-3, 98-0211-9621-1, 98-0211-9622-9, 98-0211-9623-7, 98-0211-9627-8, 98-0211-9628-6, 98-0211-9633-6, 98-0211-9642-7, 98-0211-9675-7, 98-0211-9737-5, 98-0211-9738-3, 98-0211-9739-1, 98-0213-0414-6, 98-0213-0724-8, 98-0213-0725-5, 98-0213-0854-3, 98-0213-1318-8, JF-1000-2610-9, JF-1000-2615-8, JF-1000-4073-8, JF-1000-4079-5, ZF-0002-0024-4, ZF-0002-0084-8, ZF-0002-0086-3, ZF-0002-0103-6, ZF-0002-0114-3, ZF-0002-0118-4, ZF-0002-0120-0, ZF-0002-0172-1, ZF-0002-0173-9, ZF-0002-0174-7, ZF-0002-0175-4, ZF-0002-0181-2, ZF-0002-0221-6, ZF-0002-0222-4, ZF-0002-0224-0, ZF-0002-0254-7, ZF-0002-0255-4, ZF-0002-0256-2, ZF-0002-0257-0, ZF-0002-0265-3, ZF-0002-0277-8, ZF-0002-0279-4, ZF-0002-0282-8, ZF-0002-0284-4, ZF-0002-0286-9, ZF-0002-0287-7, ZF-0002-0523-5, ZF-0002-0547-4, ZF-0002-0559-9, ZF-0002-0890-8, ZF-0002-0907-0, ZF-0002-0910-4, ZF-0002-0918-7, ZF-0002-1155-5, ZF-0002-1157-1, ZF-0002-1193-6, ZF-0002-1196-9, ZF-0002-1197-7, ZF-0002-1380-9, ZF-0002-1381-7, ZF-0002-1426-0, ZF-0002-1529-1, ZF-0002-1580-4, ZF-0002-1581-2, ZF-0002-1597-8, ZF-0002-

4076-0, ZF-0002-4491-1, ZF-0002-6291-3, ZF-0002-8066-7, ZF-0002-8068-3, ZF-0002-8070-9, ZF-0002-8073-3, ZF-0002-8074-1, ZG-2860-0130-8

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS 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: 0 Reactivity: 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.

HMIS Hazard Classification

Health: 2 Flammability: 0 Reactivity: 0 Protection: X - See PPE section.

Hazardous Material Identification System (HMIS(r)) 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(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

Revision Changes:

Section 1: Product name was modified.

Page Heading: Product name was modified.

Section 2: Product identification comment was modified.

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