



Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ Dyneon (TM) THVP 2030G X
MANUFACTURER: 3M
DIVISION: Energy and Advanced Materials Division
ADDRESS: 3M Center, St. Paul, MN 55144-1000

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

Issue Date: 08/22/11
Supersedes Date: 06/07/06

Document Group: 18-1910-1

Product Use:

Intended Use: Fluorothermoplastic

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
FLUOROPOLYMER	Trade Secret	100

New Jersey Trade Secret Registry for FLUOROPOLYMER (EIN) is 07490dyn-6459

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Pellets

Odor, Color, Grade: Translucent with slight odor

General Physical Form: Solid

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

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

During heating:

Vapors from heated material may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

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

Skin Contact:

During heating:

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

Inhalation:

During heating:

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.

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.

If thermal decomposition occurs:

May be absorbed following inhalation and cause target organ effects.

Ingestion:

No health effects are expected.

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. If signs/symptoms persist, get medical attention. If eye contact with hot material occurs: DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Immediately flush affected area with plenty of cold water and cover with a clean dressing. Have burn treated by a physician.

Skin Contact: If skin contact with hot material occurs: DO NOT ATTEMPT TO REMOVE MOLTEN MATERIAL. Immediately flush affected area with plenty of cold water and cover with a clean dressing. Have burn treated by a physician.

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

If Swallowed: No need for first aid is anticipated.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature	<i>Not Applicable</i>
Flash Point	No flash point
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>

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: Not applicable.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel.

6.2. Environmental precautions

Dispose of collected material as soon as possible.

Clean-up methods

Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Collect as much of the spilled material as possible. Use wet sweeping compound or water to avoid dusting. Sweep up. Clean up residue.

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

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. Store work clothes separately from other clothing, food and tobacco products. Avoid skin contact with hot material. For industrial or professional use only.

7.2 STORAGE

Keep container tightly closed. Store in a clean, dry place.

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 with hot material. Avoid prolonged or repeated skin contact. Wear heat insulating gloves when handling this material to prevent thermal burns.

8.2.3 Respiratory Protection

During heating:

Avoid breathing of vapors.

Use a positive pressure supplied-air respirator if there is a potential for exposure from an uncontrolled release, exposure levels are not known, or under any other circumstances where air-purifying respirators may not provide adequate protection. 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 N95 particulate filters

. Select and use respiratory protection to prevent an inhalation exposure based on the results of an exposure assessment. Consult with your respirator manufacturer for selection of appropriate types of respirators.

8.2.4 Prevention of Swallowing

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

8.3 EXPOSURE GUIDELINES

None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Pellets
Odor, Color, Grade:	Translucent with slight odor
General Physical Form:	Solid
Autoignition temperature	<i>Not Applicable</i>
Flash Point	No flash point
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Boiling Point	<i>Not Applicable</i>
Density	1.95 - 2.01 g/cm ³
Vapor Density	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	1.95 - 2.01 [<i>Test Method: ASTM METHOD</i>] [<i>Ref Std: WATER=1</i>]
pH	<i>Not Applicable</i>
Melting point	120 - 140 °C [<i>Test Method: ASTM METHOD</i>] [<i>Details: D4591</i>]
Solubility in Water	Negligible
Evaporation rate	<i>Not Applicable</i>
Volatile Organic Compounds	<i>Not Applicable</i>
Kow - Oct/Water partition coef	<i>No Data Available</i>
Percent volatile	<i>Not Applicable</i>
VOC Less H₂O & Exempt Solvents	<i>Not Applicable</i>
Viscosity	<i>Not Applicable</i>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

Not determined

10.2 Materials to avoid

Alkali and alkaline earth metals

Reactions with metals in powder form occur from 370 degrees C onwards.

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Carbonyl Fluoride
Carbon monoxide
Carbon dioxide
Hydrogen Fluoride
Perfluoroisobutylene (PFIB)
Toxic Vapor, Gas, Particulate

Condition

At Elevated Temperatures
At Elevated Temperatures
At Elevated Temperatures
At Elevated Temperatures
At Elevated Temperatures
At Elevated Temperatures

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. Dispose of waste product in a facility permitted to accept chemical waste. 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):

97-5000-0984-6, 97-5000-1075-2, 98-0213-1137-2, 98-0213-1279-2

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

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 - No 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.

US LABEL INFORMATION

Vapors liberated during processing may be hazardous if inhaled. Eye, nose, throat and lung irritation can occur from such vapors.

PRECAUTIONS: Exhaust processing vapors completely from work areas. FIRE FIGHTING INSTRUCTIONS: Wear full protective clothing including self-contained breathing apparatus and protection from acidic hydrogen fluoride. Use only in well ventilated areas. Avoid contamination of tobacco with polymer resin. Before using, read current Material Safety Data Sheet.

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

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

Revision Changes:

Section 1: Manufacturer name was modified.

Section 1: Product name was modified.

Section 1: Product use information was modified.
Section 1: Division name was modified.
Section 16: Disclaimer (first paragraph) was modified.
Section 16: Disclaimer (second paragraph) was modified.
Section 8: Skin protection phrase was modified.
Section 10: Hazardous decomposition or by-products table was modified.
Section 8: Eye/face protection information was modified.
Section 8: Respiratory protection - recommended respirators information was modified.
Section 14: Transportation legal text was modified.
Section 16: HMIS explanation was modified.
Page Heading: Product name was modified.
Section 15: Inventories information was modified.
Section 9: Density information was modified.
Section 9: Vapor density value was modified.
Section 9: Vapor pressure value was modified.
Section 9: Boiling point information was modified.
Section 5: Flammable limits (UE) information was modified.
Section 5: Flammable limits (LEL) information was modified.
Section 5: Autoignition temperature information was modified.
Section 5: Flash point information was modified.
Section 9: Property description for optional properties was modified.
Section 9: Specific gravity information was modified.
Section 9: pH information was modified.
Section 9: Melting point information was modified.
Section 9: Solubility in water text was modified.
Section 8: Respiratory protection - recommended respirators guide was modified.
Section 9: Flash point information was modified.
Section 9: Flammable limits (LEL) information was modified.
Section 9: Flammable limits (UEL) information was modified.
Section 9: Autoignition temperature information was modified.
Section 14: ID Number Heading Template 1 was added.
Section 14: ID Number(s) Template 1 was added.
Section 2: Ingredient table was added.
Section 8: Exposure guidelines information - none - was added.
Section 6: 6.2. Environmental precautions heading was added.
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading was added.
Section 10.1 Conditions to avoid heading was added.
Section 10.2 Materials to avoid heading was added.
Section 16: Web address was added.
Section 6: Personal precautions information was added.
Section 6: Environmental procedures information was added.
Section 6: Methods for cleaning up information was added.
Section 10: Materials to avoid physical property was added.
Section 10: Conditions to avoid physical property was added.
Section 8: Hand protection information was added.
Section 1: Address was added.
Copyright was added.
Company logo was added.
Section 6: Clean-up methods heading was added.
Telephone header was added.
Company Telephone was added.
Section 1: Emergency phone information was added.
Section 1: Emergency phone information was deleted.
Company Logo was deleted.
Copyright was deleted.
Section 16: Web address heading was deleted.

Section 6: Release measures information was deleted.

Section 6: Release measures heading was deleted.

Section 4: First aid for skin contact - decontamination - was deleted.

Section 4: First aid for skin contact - medical assistance - was deleted.

Section 10: Materials and conditions to avoid physical property was deleted.

Section 1: Address line 1 was deleted.

Section 1: Address line 2 was deleted.

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