



## Safety Data Sheet

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### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Dynamar™ Polymer Processing Additive FX 5920B

#### Product Identification Numbers

98-0211-8912-5, 98-0211-9228-5, 98-0213-3563-7, 98-0213-3873-0  
7100035465, 7100150370, 7100174083

#### 1.2. Recommended use and restrictions on use

##### Recommended use

Polymer Processing Additive

#### 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

Specific Target Organ Toxicity (repeated exposure): Category 1.

#### 2.2. Label elements

##### Signal word

Danger

##### Symbols

Health Hazard |

##### Pictograms

**Hazard Statements**

Causes damage to organs through prolonged or repeated exposure:  
respiratory system |

**Precautionary Statements****Prevention:**

Do not breathe dust/fume/gas/mist/vapors/spray.  
Do not eat, drink or smoke when using this product.  
Wash thoroughly after handling.

**Response:**

Get medical advice/attention if you feel unwell.

**Disposal:**

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

**Supplemental Information:**

May cause thermal burns.

**SECTION 3: Composition/information on ingredients**

Ingredient	C.A.S. No.	% by Wt
Polyethylene Oxide	25322-68-3	50 - 65
Vinylidene Fluoride-Hexafluoropropylene Polymer	9011-17-0	20 - 35
Barium Sulfate	7727-43-7	8 - 12
Calcium Carbonate	471-34-1	< 5
Talc	14807-96-6	< 5 Trade Secret *

\*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

**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:**

Rinse mouth. If you feel unwell, get medical attention.

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

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**

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**

Evacuate area. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

#### **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. Use wet sweeping compound or water to avoid dusting. Sweep up. 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 get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

#### **7.2. Conditions for safe storage including any incompatibilities**

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
Talc	14807-96-6	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
Talc	14807-96-6	OSHA	TWA:2 mg/m3	
Polyethylene Oxide	25322-68-3	AIHA	TWA(as aerosol):10 mg/m3	
Limestone	471-34-1	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):5 mg/m3	
Barium Sulfate	7727-43-7	ACGIH	TWA(inhalable fraction):5 mg/m3	
Barium Sulfate	7727-43-7	OSHA	TWA(as total dust):15 mg/m3;TWA(respirable fraction):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

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield

Indirect Vented Goggles

#### 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:

During heating:

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

Half facepiece or full facepiece air-purifying respirator suitable for particulates, including oily mists

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

#### Thermal hazards

Wear heat insulating gloves 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:

Granules

Odor

Odorless

Odor threshold

*No Data Available*

pH

*Not Applicable*

Melting point

*Not Applicable*

Boiling Point

*Not Applicable*

Flash Point

229 °C [*Test Method:*Pensky-Martens Closed Cup]

Evaporation rate

*Not Applicable*

Flammability (solid, gas)

Not Classified

Flammable Limits(LEL)

*Not Applicable*

Flammable Limits(UEL)

*Not Applicable*

Vapor Pressure

*Not Applicable*

Vapor Density

*Not Applicable*

Density

1.6 g/cm<sup>3</sup>

Specific Gravity

1.6 [*Ref Std:*WATER=1]

Solubility in Water

Moderate

Solubility- non-water

*No Data Available*

Partition coefficient: n-octanol/ water

*No Data Available*

Autoignition temperature

*Not Applicable*

Decomposition temperature

*No Data Available*

Viscosity

*No Data Available*

Molecular weight

*No Data Available*

Volatile Organic Compounds

*No Data Available*

Percent volatile

*Not Applicable*

VOC Less H<sub>2</sub>O & Exempt Solvents

*No Data Available*

## 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 will not occur.

**10.4. Conditions to avoid**

Sparks and/or flames

**10.5. Incompatible materials**

Strong oxidizing agents

Al or Mg powder and high/shear temperature conditions

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

Carbonyl Fluoride

At Elevated Temperatures

Formaldehyde

At Elevated Temperatures

Carbon monoxide

At Elevated Temperatures

Carbon dioxide

At Elevated Temperatures

Hydrogen Fluoride

At Elevated Temperatures

Toxic Vapor, Gas, Particulate

At Elevated Temperatures

Extreme heat arising from situations such as misuse or equipment failure can generate hydrogen fluoride as a decomposition product.

**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:**

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

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.

Mechanical Skin irritation: Signs/symptoms may include abrasion, redness, pain, and itching.

**Eye Contact:**

During heating:

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

Mechanical eye irritation: Signs/symptoms may include pain, redness, tearing and corneal abrasion.

**Ingestion:**

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

#### Additional Health Effects:

#### Prolonged or repeated exposure may cause target organ effects:

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

#### 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
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Polyethylene Oxide	Dermal	Rabbit	LD50 > 20,000 mg/kg
Polyethylene Oxide	Ingestion	Rat	LD50 32,770 mg/kg
Vinylidene Fluoride-Hexafluoropropylene Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Vinylidene Fluoride-Hexafluoropropylene Polymer	Ingestion	Rat	LD50 6,000 mg/kg
Barium Sulfate	Dermal		LD50 estimated to be > 5,000 mg/kg
Barium Sulfate	Ingestion	Rat	LD50 > 15,000 mg/kg
Talc	Dermal		LD50 estimated to be > 5,000 mg/kg
Talc	Ingestion		LD50 estimated to be > 5,000 mg/kg
Calcium Carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium Carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Calcium Carbonate	Ingestion	Rat	LD50 6,450 mg/kg

ATE = acute toxicity estimate

#### Skin Corrosion/Irritation

Name	Species	Value
Polyethylene Oxide	Rabbit	Minimal irritation
Vinylidene Fluoride-Hexafluoropropylene Polymer	Rabbit	No significant irritation
Talc	Rabbit	No significant irritation
Calcium Carbonate	Rabbit	No significant irritation

#### Serious Eye Damage/Irritation

Name	Species	Value
Polyethylene Oxide	Rabbit	Mild irritant
Vinylidene Fluoride-Hexafluoropropylene Polymer	Rabbit	Mild irritant
Barium Sulfate	Rabbit	No significant irritation
Talc	Rabbit	No significant irritation
Calcium Carbonate	Rabbit	No significant irritation

#### Skin Sensitization

Name	Species	Value
Polyethylene Oxide	Guinea pig	Not classified

#### Respiratory Sensitization

Name	Species	Value
Talc	Human	Not classified

#### Germ Cell Mutagenicity

Name	Route	Value
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Polyethylene Oxide	In Vitro	Not mutagenic
Polyethylene Oxide	In vivo	Not mutagenic
Talc	In Vitro	Not mutagenic
Talc	In vivo	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
Polyethylene Oxide	Ingestion	Rat	Not carcinogenic
Talc	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification

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

Name	Route	Value	Species	Test Result	Exposure Duration
Polyethylene Oxide	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,125 mg/kg/day	during gestation
Polyethylene Oxide	Ingestion	Not classified for male reproduction	Rat	NOAEL 5699 +/- 1341 mg/kg/day	5 days
Polyethylene Oxide	Not Specified	Not classified for reproduction and/or development		NOEL N/A	
Polyethylene Oxide	Ingestion	Not classified for development	Mouse	NOAEL 562 mg/animal/day	during gestation
Talc	Ingestion	Not classified for development	Rat	NOAEL 1,600 mg/kg	during organogenesis
Calcium Carbonate	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during gestation

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

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Polyethylene Oxide	Inhalation	respiratory irritation	Not classified	Rat	NOAEL 1.008 mg/l	2 weeks
Calcium Carbonate	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Polyethylene Oxide	Inhalation	respiratory system	Not classified	Rat	NOAEL 1.008 mg/l	2 weeks
Polyethylene Oxide	Ingestion	kidney and/or bladder   heart   endocrine system   hematopoietic system   liver   nervous system	Not classified	Rat	NOAEL 5,640 mg/kg/day	13 weeks
Vinylidene Fluoride-Hexafluoropropylene Polymer	Ingestion	liver	Not classified	Rat	NOAEL 10,000 mg/kg/day	2 weeks
Barium Sulfate	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pulmonary fibrosis   respiratory system	Not classified	Rat	NOAEL 18 mg/m3	113 weeks



Calcium Carbonate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
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**Aspiration Hazard**

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

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.

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. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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**

Contact 3M for more information.

**EPCRA 311/312 Hazard Classifications:****Physical Hazards**

Not applicable

**Health Hazards**

Specific target organ toxicity (single or repeated exposure)

**15.2. State Regulations**

Contact 3M for more information.

### 15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this product are in compliance with the new substance notification requirements of CEPA.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information.

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. During normal use conditions, please reference Section 2 and Section 11 of the SDS for additional health hazard information.

### HMIS Hazard Classification

**Health:** \*3 **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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