



## Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Canadian Hazardous Products Regulations.

### SECTION 1: Identification

#### 1.1. Product identifier

3M™ Novec™ 7000 Engineered Fluid

#### Product Identification Numbers

98-0212-2969-9      98-0212-2970-7      98-0212-2971-5      98-0212-3531-6      98-0212-4900-2

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

##### Intended Use

For Industrial Use Only. Not Intended for Use as a Medical Device or Drug.

##### Restrictions on use

Not applicable

#### 1.3. Supplier's details

**Company:** 3M Canada Company  
**Division:** Electronics Materials Solutions Division  
**Address:** 1840 Oxford Street East, Post Office Box 5757, London, Ontario N6A 4T1  
**Telephone:** (800) 364-3577  
**Website:** www.3M.ca

#### 1.4. Emergency telephone number

Medical Emergency Telephone: 1-800-3M HELPS / 1-800-364-3577; Transportation Emergency Telephone (CANUTEC): (613) 996-6666

### SECTION 2: Hazard identification

#### 2.1. Classification of the substance or mixture

Not classified according to the Canadian Hazardous Products Regulation.

#### 2.2. Label elements

##### Signal word

Not applicable.

##### Symbols

Not applicable.

**Pictograms**

Not applicable.

**2.3. Other hazards**

None known.

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

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt	Common Name
Methyl perfluoropropyl ether	375-03-1	> 99.5	METHYL PERFLUOROPROPYL ETHER

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

No need for first aid is anticipated.

**Skin Contact:**

No need for first aid is anticipated.

**Eye Contact:**

No need for first aid is anticipated.

**If Swallowed:**

No need for first aid is anticipated.

**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**

Non-combustible. Use a fire fighting agent suitable for surrounding fire.

**5.2. Special hazards arising from the substance or mixture**

Exposure to extreme heat can give rise to thermal decomposition.

**Hazardous Decomposition or By-Products****Substance**

Carbon monoxide

Carbon dioxide

Hydrogen Fluoride

**Condition**

During Combustion

During Combustion

During Combustion

**5.3. Special protective actions for fire-fighters**

When fire fighting conditions are severe and total thermal decomposition of the product is possible, 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**

Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, 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**

Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. 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**

Contents may be under pressure, open carefully. Do not breathe thermal decomposition products. Avoid skin contact with hot material. For industrial or professional use only. Not for consumer sale or use. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.)

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

Store between the following temperatures: 20°C to 30°C (68 to 86°F). Store away from acids. Store away from strong bases. 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
Methyl perfluoropropyl ether	375-03-1	Manufacturer determined	TWA:250 ppm	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association

CMRG : Chemical Manufacturer's Recommended Guidelines

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

**8.2. Exposure controls****8.2.1. Engineering controls**

Provide appropriate local exhaust when product is heated. 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/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

**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**

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.

**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**

<b>Physical state</b>	Liquid
<b>Specific Physical Form:</b>	Liquid
<b>Colour</b>	Colourless
<b>Odour</b>	Slight Ether
<b>Odour threshold</b>	<i>No Data Available</i>
<b>pH</b>	<i>Not Applicable</i>
<b>Melting point/Freezing point</b>	-122.5 °C
<b>Boiling point</b>	34 °C
<b>Flash Point</b>	No flash point
<b>Evaporation rate</b>	<i>No Data Available</i>
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Flammable Limits(LEL)</b>	None detected
<b>Flammable Limits(UEL)</b>	None detected
<b>Vapour Pressure</b>	53,728.8 Pa [ <i>@ 20 °C</i> ]
<b>Vapour Density and/or Relative Vapour Density</b>	0.51 [ <i>@ 25 °C</i> ]
<b>Density</b>	1.41 g/ml
<b>Relative density</b>	1.41 [ <i>Ref Std: WATER=1</i> ]
<b>Water solubility</b>	Negligible
<b>Solubility- non-water</b>	<i>No Data Available</i>
<b>Partition coefficient: n-octanol/ water</b>	<i>No Data Available</i>
<b>Autoignition temperature</b>	415 °C
<b>Decomposition temperature</b>	<i>Not Applicable</i>
<b>Viscosity/Kinematic Viscosity</b>	0.00047 Pa-s
<b>Volatile Organic Compounds</b>	<i>No Data Available</i>
<b>Percent volatile</b>	100 %
<b>VOC Less H2O &amp; Exempt Solvents</b>	<i>No Data Available</i>
<b>Molecular weight</b>	<i>No Data Available</i>

**Nanoparticles**

This material does not contain nanoparticles.

**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**

None known.

**10.5. Incompatible materials**

- Strong acids
- Strong bases
- Strong oxidizing agents

**10.6. Hazardous decomposition products**

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	At Elevated Temperatures - extreme conditions of heat
Carbon dioxide	At Elevated Temperatures - extreme conditions of heat
Hydrogen Fluoride	At Elevated Temperatures - extreme conditions of heat
Toxic Vapor, Gas, Particulate	At Elevated Temperatures - extreme conditions of heat

Refer to section 5.2 for hazardous decomposition products during combustion.

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. 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:**

No known health effects.

**Skin Contact:**

Contact with the skin during product use is not expected to result in significant irritation.

**Eye Contact:**

Contact with the eyes during product use is not expected to result in significant irritation.

**Ingestion:**

No known health effects.

**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
Methyl perfluoropropyl ether	Dermal		LD50 estimated to be > 5,000 mg/kg
Methyl perfluoropropyl ether	Inhalation-Vapor (4 hours)	Mouse	LC50 820 mg/l
Methyl perfluoropropyl ether	Ingestion	Rat	LD50 > 2,000 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Methyl perfluoropropyl ether	Rabbit	No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
Methyl perfluoropropyl ether	Rabbit	No significant irritation

**Skin Sensitization**

Name	Species	Value
Methyl perfluoropropyl ether	Mouse	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
Methyl perfluoropropyl ether	In Vitro	Not mutagenic

**Carcinogenicity**

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

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

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

**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
Methyl perfluoropropyl ether	Inhalation	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 82 mg/l	30 days
Methyl perfluoropropyl ether	Inhalation	blood   liver   heart   endocrine system   hematopoietic system   nervous system   respiratory system	Not classified	Rat	NOAEL 246 mg/l	30 days

#### 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

No data available.

## 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 and clean product containers may be disposed as non-hazardous waste. Consult your specific regulations and service providers to determine available options and requirements.

## 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. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. 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. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. 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.

**SECTION 16: Other information**

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.

**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.

**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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3M Canada SDSs are available at [www.3M.ca](http://www.3M.ca)