



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Fire Block Foam FB-Foam

Product Identification Numbers

98-0400-5614-9, 98-0441-1020-7, 98-0441-1104-9
7100006734, 7010401353, 7100271902

1.2. Recommended use and restrictions on use

Recommended use

Sealant

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Industrial Specialties 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

Aerosol Category 1
Acute Toxicity (inhalation): Category 2.
Skin Corrosion/Irritation: Category 2.
Serious Eye Damage/Irritation: Category 2A.
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1.
Carcinogenicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (repeated exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.
Simple Asphyxiants: Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Skull and crossbones | Exclamation mark | Health Hazard |

Pictograms**Hazard Statements**

Extremely flammable aerosol.

Pressurized container: may burst if heated.

Fatal if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause cancer.

May cause drowsiness or dizziness.

May cause respiratory irritation.

May displace oxygen and cause rapid suffocation.

Causes damage to organs: cardiovascular system.

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

Precautionary statements**General:**

Keep out of reach of children.

Prevention:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Do not spray on an open flame or other ignition source.

Do not pierce or burn, even after use.

Do not breathe vapor or spray.

Wash exposed skin thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves and eye protection.

In case of inadequate ventilation wear respiratory protection.

Response:

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

IF exposed or concerned: Immediately call a POISON CENTER or doctor.

Get medical attention if you feel unwell.

Specific treatment (see Notes to Physician on this label).

If eye irritation persists or if skin irritation or rash occurs: Get medical attention.
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
 Take off contaminated clothing and wash it before reuse.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
 Store locked up.
 Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C).

Disposal:

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

Notes to Physician:

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

Supplemental Information:

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates. Intentional concentration and inhalation may be harmful or fatal.

1% of the mixture consists of ingredients of unknown acute oral toxicity.
 1% of the mixture consists of ingredients of unknown acute dermal toxicity.
 22% of the mixture consists of ingredients of unknown acute inhalation toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
2-Propanol, 1-Chloro, Phosphate (3:1)	13674-84-5	10 - 30 Trade Secret *
P,P'-Methylenebis(Phenyl Isocyanate)	101-68-8	10 - 30 Trade Secret *
Polymethylene Polyphenylene Isocyanate	9016-87-9	10 - 30 Trade Secret *
Castor Oil	8001-79-4	5 - 10
Diethylene Glycol-Phthalic Anhydride Copolymer	32472-85-8	5 - 10 Trade Secret *
Dimethyl Ether	115-10-6	5 - 10 Trade Secret *
Isobutane	75-28-5	5 - 10 Trade Secret *
Propane	74-98-6	1 - 5 Trade Secret *
Silicone Surfactant	Trade Secret*	0.1 - 1
2,2'-Dimorpholinyl-diethyl Ether	6425-39-4	0.1 - 1 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. Get immediate medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

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

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

Fatal if inhaled. Irritating to the respiratory tract (coughing, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain). Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching). Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details. Target organ effects following prolonged or repeated exposure. See Section 11 for additional details.

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

Exposure may increase myocardial irritability. Do not administer sympathomimetic drugs unless absolutely necessary.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Use a fire fighting agent suitable for the surrounding fire.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Formaldehyde	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
Hydrogen Cyanide	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

If possible, seal leaking container. Place leaking containers in a well-ventilated area, preferably an operating exhaust hood, or if necessary outdoors on an impermeable surface until appropriate packaging for the leaking container or its contents is available. Contain spill. Cover spill area with a fire-extinguishing foam. Pour isocyanate decontaminant solution (90% water, 8% concentrated ammonia, 2% detergent) on spill and allow to react for 10 minutes. Or pour water on spill and allow

to react for more than 30 minutes. Cover with absorbent material. 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 using non-sparking tools. Place in a container approved for transportation by appropriate authorities, but do not seal the container for 48 hours to avoid pressure build-up. 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. 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 use in a confined area with minimal air exchange. Keep out of reach of children. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

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
P,P'-Methylenebis(Phenyl Isocyanate)	101-68-8	OSHA	CEIL:0.2 mg/m3(0.02 ppm)	
Dimethyl Ether	115-10-6	AIHA	TWA:1880 mg/m3(1000 ppm)	
Propane	74-98-6	ACGIH	Limit value not established:	simple asphyxiant
Propane	74-98-6	OSHA	TWA:1800 mg/m3(1000 ppm)	

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

Do not remain in area where available oxygen may be reduced. 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.

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. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

For prolonged or repeated contact, gloves made from the following material(s) are recommended (breakthrough times are >4 hours): Polymer laminate

Any glove recommended for prolonged/repeated contact is also suitable for short-term/splash contact.

If this product is used in a manner that presents a higher potential for exposure (e.g., spraying, high splash potential, etc.), then use of a protective apron may be necessary. See recommended glove material(s) for determining appropriate apron material(s). If a glove material is not available as an apron, polymer laminate is a suitable option.

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:

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

Half facepiece or full facepiece supplied-air respirator

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Color	Off-White, Yellow
Odor	Slight Hydrocarbon
Odor threshold	No Data Available
pH	No Data Available
Melting point	No Data Available
Boiling Point	-33.3 - -11.7 °C [Details: Liquefied petroleum gas (hydrocarbon, HC) components boil between -33.3 to -11.7°C. Other components boil at temperatures greater than 93.3°C]
Flash Point	-156 °F [Test Method: Estimated]
Evaporation rate	No Data Available
Flammability	Flammable Aerosol: Category 1.
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Vapor Pressure	>=345 kPa [Details: Contents under pressure have vapor pressure greater than 345kPa. After release from container, the pressure is very low.]
Relative Vapor Density	Not Applicable

Density	1.1 g/ml
Relative Density	1.1 [Ref Std: WATER=1]
Solubility in Water	Nil [Details: Reacts slowly with water during cure]
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	No Data Available
Decomposition temperature	No Data Available
Kinematic Viscosity	No Data Available
VOC Less H2O & Exempt Solvents	165 g/l

Particle Characteristics *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. Do not store above 50C

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

Alcohols
Strong bases
Amines
Strong oxidizing agents

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

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:

Fatal if inhaled. Simple Asphyxiation: Signs/symptoms may include increased heart rate, rapid respirations, drowsiness, headache, incoordination, altered judgement, nausea, vomiting, lethargy, seizures, coma, and may be fatal. Respiratory

Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. May cause additional health effects (see below).

Skin Contact:

Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

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

Ingestion:

May be harmful if swallowed. Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness. Single exposure, above recommended guidelines, may cause: Cardiac Sensitization: Signs/symptoms may include irregular heartbeat (arrhythmia), faintness, chest pain, and may be fatal.

Prolonged or repeated exposure may cause target organ effects:

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Additional Information:

Persons previously sensitized to isocyanates may develop a cross-sensitization reaction to other isocyanates.

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	Dermal		No data available; calculated ATE >5,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE >0.05 - =0.5 mg/l
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
2-Propanol, 1-Chloro, Phosphate (3:1)	Dermal	Rabbit	LD50 > 2,000 mg/kg
P,P'-Methylenebis(Phenyl Isocyanate)	Dermal	Rabbit	LD50 > 5,000 mg/kg
Polymethylene Polyphenylene Isocyanate	Dermal	Rabbit	LD50 > 5,000 mg/kg
2-Propanol, 1-Chloro, Phosphate (3:1)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 estimated to be 5 - 12.5 mg/l
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	Rat	LD50 632 mg/kg
P,P'-Methylenebis(Phenyl Isocyanate)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.368 mg/l
P,P'-Methylenebis(Phenyl Isocyanate)	Ingestion	Rat	LD50 31,600 mg/kg
Polymethylene Polyphenylene Isocyanate	Inhalation-	Rat	LC50 0.368 mg/l

	Dust/Mist (4 hours)		
Polymethylene Polyphenylene Isocyanate	Ingestion	Rat	LD50 31,600 mg/kg
Isobutane	Inhalation- Gas (4 hours)	Rat	LC50 276,000 ppm
Castor Oil	Dermal		LD50 estimated to be > 5,000
Castor Oil	Ingestion		LD50 estimated to be > 5,000
Diethylene Glycol-Phthalic Anhydride Copolymer	Dermal	Rat	LD50 > 2,000 mg/kg
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	Rat	LD50 > 2,000 mg/kg
Dimethyl Ether	Inhalation- Gas (4 hours)	Rat	LC50 164,000 ppm
Propane	Inhalation- Gas (4 hours)	Rat	LC50 > 200,000 ppm
2,2'-Dimorpholinyldiethyl Ether	Dermal	Rabbit	LD50 3,030 mg/kg
2,2'-Dimorpholinyldiethyl Ether	Ingestion	Rat	LD50 2,020 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
2-Propanol, 1-Chloro, Phosphate (3:1)	Rabbit	Minimal irritation
P,P'-Methylenebis(Phenyl Isocyanate)	official classifica tion	Irritant
Polymethylene Polyphenylene Isocyanate	official classifica tion	Irritant
Isobutane	Professio nal judgeme nt	No significant irritation
Castor Oil	Human	Minimal irritation
Diethylene Glycol-Phthalic Anhydride Copolymer	Rabbit	No significant irritation
Propane	Rabbit	Minimal irritation
2,2'-Dimorpholinyldiethyl Ether	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
2-Propanol, 1-Chloro, Phosphate (3:1)	Rabbit	No significant irritation
P,P'-Methylenebis(Phenyl Isocyanate)	official classifica tion	Severe irritant
Polymethylene Polyphenylene Isocyanate	official classifica tion	Severe irritant
Isobutane	Professio nal judgeme nt	No significant irritation
Castor Oil	Rabbit	Mild irritant
Diethylene Glycol-Phthalic Anhydride Copolymer	In vitro data	Severe irritant
Propane	Rabbit	Mild irritant
2,2'-Dimorpholinyldiethyl Ether	Rabbit	Severe irritant

Skin Sensitization

Name	Species	Value
2-Propanol, 1-Chloro, Phosphate (3:1)	Mouse	Not classified
P,P'-Methylenebis(Phenyl Isocyanate)	Mouse	Sensitizing

Polymethylene Polyphenylene Isocyanate	Mouse	Sensitizing
Castor Oil	Human	Not classified
2,2'-Dimorpholinyldiethyl Ether	Guinea pig	Not classified

Respiratory Sensitization

Name	Species	Value
P,P'-Methylenebis(Phenyl Isocyanate)	Human	Sensitizing
Polymethylene Polyphenylene Isocyanate	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
2-Propanol, 1-Chloro, Phosphate (3:1)	In Vitro	Not mutagenic
2-Propanol, 1-Chloro, Phosphate (3:1)	In vivo	Some positive data exist, but the data are not sufficient for classification
P,P'-Methylenebis(Phenyl Isocyanate)	In Vitro	Some positive data exist, but the data are not sufficient for classification
Polymethylene Polyphenylene Isocyanate	In Vitro	Some positive data exist, but the data are not sufficient for classification
Isobutane	In Vitro	Not mutagenic
Castor Oil	In Vitro	Not mutagenic
Castor Oil	In vivo	Not mutagenic
Diethylene Glycol-Phthalic Anhydride Copolymer	In Vitro	Not mutagenic
Dimethyl Ether	In Vitro	Not mutagenic
Dimethyl Ether	In vivo	Not mutagenic
Propane	In Vitro	Not mutagenic
2,2'-Dimorpholinyldiethyl Ether	In Vitro	Not mutagenic
2,2'-Dimorpholinyldiethyl Ether	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	Multiple animal species	Carcinogenic
P,P'-Methylenebis(Phenyl Isocyanate)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Polymethylene Polyphenylene Isocyanate	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Dimethyl Ether	Inhalation	Rat	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	2 generation
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	2 generation
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	Not classified for development	Rat	LOAEL 99 mg/kg/day	2 generation
P,P'-Methylenebis(Phenyl Isocyanate)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Polymethylene Polyphenylene Isocyanate	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	Not classified for development	Rat	NOAEL 1,000 mg/kg/day	during gestation
Dimethyl Ether	Inhalation	Not classified for development	Rat	NOAEL 40,000 ppm	during organogenesis

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2,2'-Dimorpholinyldiethyl Ether	Ingestion	Not classified for female reproduction	Rat	NOAEL 300 mg/kg/day	premating into lactation
2,2'-Dimorpholinyldiethyl Ether	Ingestion	Not classified for male reproduction	Rat	NOAEL 300 mg/kg/day	28 days
2,2'-Dimorpholinyldiethyl Ether	Ingestion	Not classified for development	Rat	NOAEL 300 mg/kg/day	premating into lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
2-Propanol, 1-Chloro, Phosphate (3:1)	Inhalation	nervous system	Not classified	Rat	NOAEL Not available	4 hours
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	nervous system	Not classified	Rat	NOAEL Not available	
P,P'-Methylenebis(Phenyl Isocyanate)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Polymethylene Polyphenylene Isocyanate	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Isobutane	Inhalation	cardiac sensitization	Causes damage to organs	Multiple animal species	NOAEL Not available	
Isobutane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human and animal	NOAEL Not available	
Isobutane	Inhalation	respiratory irritation	Not classified	Mouse	NOAEL Not available	
Diethylene Glycol-Phthalic Anhydride Copolymer	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Dimethyl Ether	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 10,000 ppm	30 minutes
Dimethyl Ether	Inhalation	cardiac sensitization	Some positive data exist, but the data are not sufficient for classification	Dog	NOAEL 100,000 ppm	5 minutes
Propane	Inhalation	cardiac sensitization	Causes damage to organs	Human	NOAEL Not available	
Propane	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Propane	Inhalation	respiratory irritation	Not classified	Human	NOAEL Not available	
2,2'-Dimorpholinyldiethyl Ether	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	liver	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	immune system	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	heart	Not classified	Mouse	NOAEL 3,645 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 3,645 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	kidney and/or bladder	Not classified	Mouse	NOAEL 3,645 mg/kg/day	3 months

2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	skin	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	endocrine system	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	nervous system	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	eyes	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	respiratory system	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
2-Propanol, 1-Chloro, Phosphate (3:1)	Ingestion	vascular system	Not classified	Rat	NOAEL 911 mg/kg/day	3 months
P,P'-Methylenebis(Phenyl Isocyanate)	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Polymethylene Polyphenylene Isocyanate	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.004 mg/l	13 weeks
Isobutane	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 4,500 ppm	13 weeks
Castor Oil	Ingestion	heart	Not classified	Rat	NOAEL 4,800 mg/kg/day	13 weeks
Castor Oil	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 4,800 mg/kg/day	13 weeks
Castor Oil	Ingestion	liver	Not classified	Rat	NOAEL 4,800 mg/kg/day	13 weeks
Castor Oil	Ingestion	kidney and/or bladder	Not classified	Mouse	NOAEL 13,000 mg/kg/day	13 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	heart	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	skin	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	endocrine system	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	immune system	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	muscles	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks

Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Diethylene Glycol-Phthalic Anhydride Copolymer	Ingestion	vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	4 weeks
Dimethyl Ether	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 25,000 ppm	2 years
Dimethyl Ether	Inhalation	liver	Not classified	Rat	NOAEL 20,000 ppm	30 weeks
2,2'-Dimorpholinyl-diethyl Ether	Ingestion	heart	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
2,2'-Dimorpholinyl-diethyl Ether	Ingestion	endocrine system	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
2,2'-Dimorpholinyl-diethyl Ether	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
2,2'-Dimorpholinyl-diethyl Ether	Ingestion	liver	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
2,2'-Dimorpholinyl-diethyl Ether	Ingestion	immune system	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
2,2'-Dimorpholinyl-diethyl Ether	Ingestion	nervous system	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
2,2'-Dimorpholinyl-diethyl Ether	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 300 mg/kg/day	28 days
2,2'-Dimorpholinyl-diethyl Ether	Ingestion	respiratory system	Not classified	Rat	NOAEL 300 mg/kg/day	28 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

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. Facility must be capable of handling aerosol cans. Combustion products will include halogen acid (HCl/HF/HBr). 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): D001 (Ignitable)

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

Flammable (gases, aerosols, liquids, or solids)

Health Hazards

Acute toxicity

Carcinogenicity

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

Simple Asphyxiant

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

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>
P,P'-Methylenebis(Phenyl Isocyanate)	101-68-8	Trade Secret 10 - 30
Polymethylene Polyphenylene Isocyanate	9016-87-9	Trade Secret 10 - 30

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 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:** 4 **Flammability:** 4 **Instability:** 1 **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.

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