



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Dynamar™ Rubber Curative RC 5110

Product Identification Numbers

98-0213-1591-0, ZF-0002-1752-9
7100148157, 7000117364

1.2. Recommended use and restrictions on use

Recommended use

Industrial use

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

Flammable Liquid: Category 2.
Acute Toxicity (oral): Category 3.
Serious Eye Damage/Irritation: Category 1.
Reproductive Toxicity: Category 1B.
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (single exposure): Category 1.
Specific Target Organ Toxicity (single exposure): Category 3.

2.2. Label elements

Signal word

Danger

Symbols

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

Pictograms**Hazard Statements**

Highly flammable liquid and vapor.

Toxic if swallowed.

Causes serious eye damage.

May cause drowsiness or dizziness.

May damage fertility or the unborn child.

Suspected of causing cancer.

Causes damage to organs:

sensory organs |

Precautionary Statements**Prevention:**

Obtain special instructions before use.

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

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Keep container tightly closed.

Use explosion-proof electrical/ventilating/lighting equipment.

Do not breathe dust/fume/gas/mist/vapors/spray.

Use only outdoors or in a well-ventilated area.

Wear protective gloves and eye/face protection.

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

Wash thoroughly after handling.

Response:

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

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

Continue rinsing.

Immediately call a POISON CENTER or doctor/physician.

Rinse mouth.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

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

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

In case of fire: Use a fire fighting agent suitable for water-reactives such as dry chemical to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

Keep cool.

Store locked up.

Disposal:

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

Notes to Physician:

This product contains methanol. If there is a reasonable suspicion of methanol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management.

Supplemental Information:

May cause thermal burns.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Triphenylbenzylphosphonium salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	75768-65-9	40 - 50 Trade Secret *
Methyl Alcohol	67-56-1	30 - 40 Trade Secret *
Ethyl Alcohol	64-17-5	15 - 25
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	1478-61-1	<= 3 Trade Secret *
Isopropyl Alcohol	67-63-0	< 2
Methyl isobutyl ketone	108-10-1	<= 0.2 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. Get immediate medical attention.

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

Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Toxic if swallowed. Central nervous system depression (headache, dizziness, drowsiness, incoordination, nausea, slurred speech, giddiness, and unconsciousness). Target organ effects. See Section 11 for additional details.

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

This product contains methanol. If there is a reasonable suspicion of methanol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

In case of fire: Use a fire fighting agent suitable for flammable liquids such as dry chemical or carbon dioxide to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode. Exposure to extreme heat can give rise to thermal decomposition.

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. 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. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. 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. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. 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. 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

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 using non-sparking tools. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with detergent and water. 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. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. 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 release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Wear low static or properly grounded shoes. Use personal protective equipment (gloves, respirators, etc.) as required. To minimize the risk of ignition, determine applicable electrical classifications for the process using this product and select specific local exhaust ventilation equipment to avoid flammable vapor accumulation. Ground/bond container and receiving equipment if there is potential for static electricity accumulation during transfer.

7.2. Conditions for safe storage including any incompatibilities

Store in a well-ventilated place. Keep cool. Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from acids. 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 isobutyl ketone	108-10-1	ACGIH	TWA:20 ppm;STEL:75 ppm	A3: Confirmed animal carcin.
Methyl isobutyl ketone	108-10-1	OSHA	TWA:410 mg/m3(100 ppm)	
Ethyl Alcohol	64-17-5	ACGIH	STEL:1000 ppm	A3: Confirmed animal carcin.
Ethyl Alcohol	64-17-5	OSHA	TWA:1900 mg/m3(1000 ppm)	
Methyl Alcohol	67-56-1	ACGIH	TWA:200 ppm;STEL:250 ppm	Danger of cutaneous absorption
Methyl Alcohol	67-56-1	OSHA	TWA:260 mg/m3(200 ppm)	
Isopropyl Alcohol	67-63-0	ACGIH	TWA:200 ppm;STEL:400 ppm	A4: Not class. as human carcin
Isopropyl Alcohol	67-63-0	OSHA	TWA:980 mg/m3(400 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

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 explosion-proof ventilation 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.

Gloves made from the following material(s) are recommended: Polymer laminate

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 - polymer laminate

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

Organic vapor respirators may have short service life.

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

Thermal hazards

Wear heat insulating gloves, indirect vented goggles, and a full face shield 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

Liquid

Color

Amber

Odor

Alcohol

Odor threshold

No Data Available

pH

Not Applicable

Melting point

Not Applicable

Boiling Point

160 °F

Flash Point

54 °F [*Test Method: Closed Cup*]

Evaporation rate

No Data Available

Flammability (solid, gas)

Not Applicable

Flammable Limits(LEL)

6 %

Flammable Limits(UEL)

36 %

Vapor Pressure

100 mmHg [*@ 20 °C*]

Vapor Density

No Data Available

Density

1.2 g/ml

Specific Gravity

1.2 [*Ref Std: WATER=1*]

Solubility in Water

Moderate

Solubility- non-water

No Data Available

Partition coefficient: n-octanol/ water

No Data Available

Autoignition temperature

422 °C

Decomposition temperature

No Data Available

Viscosity

<=100 centipoise

Molecular weight

No Data Available

Volatile Organic Compounds

No Data Available

Percent volatile

50 - 60 %

VOC Less H₂O & 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

None known.

10.5. Incompatible materials

Water

10.6. Hazardous decomposition products

Substance	Condition
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:

May be harmful if inhaled.

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).

Skin Contact:

May be harmful in contact with skin.

During heating: Thermal Burns: Signs/symptoms may include intense pain, redness and swelling, and tissue destruction. Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. May cause additional health effects (see below).

Eye Contact:

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

Corrosive (Eye Burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

Ingestion:

Toxic 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.

May cause blindness.

Reproductive/Developmental Toxicity:

Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
METHYL ISOBUTYL KETONE	108-10-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Additional Information:

This product contains ethanol. Alcoholic beverages and ethanol in alcoholic beverages have been classified by the International Agency for Research on Cancer as carcinogenic to humans. There are also data associating human consumption of alcoholic beverages with developmental toxicity and liver toxicity. Exposure to ethanol during the foreseeable use of this product is not expected to cause cancer, developmental toxicity, or liver toxicity.

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 >2,000 - ≤5,000 mg/kg
Overall product	Inhalation-Vapor(4 hr)		No data available; calculated ATE >20 - ≤50 mg/l
Overall product	Ingestion		No data available; calculated ATE >50 - ≤300 mg/kg
Triphenylbenzylphosphonium salt with 4,4'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis[phenol] (1:1)	Dermal	Professional judgement	LD50 estimated to be > 5,000 mg/kg
Triphenylbenzylphosphonium salt with 4,4'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis[phenol] (1:1)	Ingestion	Rat	LD50 > 2,000 mg/kg
Methyl Alcohol	Dermal		LD50 estimated to be 1,000 - 2,000 mg/kg
Methyl Alcohol	Inhalation-Vapor		LC50 estimated to be 10 - 20 mg/l
Methyl Alcohol	Ingestion		LD50 estimated to be 50 - 300 mg/kg
Ethyl Alcohol	Dermal	Rabbit	LD50 > 15,800 mg/kg
Ethyl Alcohol	Inhalation-Vapor (4 hours)	Rat	LC50 124.7 mg/l
Ethyl Alcohol	Ingestion	Rat	LD50 17,800 mg/kg
4,4'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis[phenol]	Dermal	Rat	LD50 > 2,000 mg/kg
4,4'-(2,2,2-trifluoro-1-(trifluoromethyl)ethylidene)bis[phenol]	Ingestion	Rat	LD50 > 2,000 mg/kg
Isopropyl Alcohol	Dermal	Rabbit	LD50 12,870 mg/kg
Isopropyl Alcohol	Inhalation-Vapor (4 hours)	Rat	LC50 72.6 mg/l
Isopropyl Alcohol	Ingestion	Rat	LD50 4,710 mg/kg
Methyl isobutyl ketone	Dermal	Rabbit	LD50 > 16,000 mg/kg
Methyl isobutyl ketone	Inhalation-Vapor (4 hours)	Rat	LC50 >8.2,<16.4 mg/l

	hours)		
Methyl isobutyl ketone	Ingestion	Rat	LD50 3,038 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Triphenylbenzylphosphonium salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Rabbit	No significant irritation
Methyl Alcohol	Rabbit	Mild irritant
Ethyl Alcohol	Rabbit	No significant irritation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Rabbit	No significant irritation
Isopropyl Alcohol	Multiple animal species	No significant irritation
Methyl isobutyl ketone	Rabbit	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Triphenylbenzylphosphonium salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Rabbit	Mild irritant
Methyl Alcohol	Rabbit	Moderate irritant
Ethyl Alcohol	Rabbit	Severe irritant
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Rabbit	Corrosive
Isopropyl Alcohol	Rabbit	Severe irritant
Methyl isobutyl ketone	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
Triphenylbenzylphosphonium salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Guinea pig	Not classified
Methyl Alcohol	Guinea pig	Not classified
Ethyl Alcohol	Human	Not classified
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Guinea pig	Not classified
Isopropyl Alcohol	Guinea pig	Not classified
Methyl isobutyl ketone	Guinea pig	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
Triphenylbenzylphosphonium salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	In Vitro	Not mutagenic
Methyl Alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Methyl Alcohol	In vivo	Some positive data exist, but the data are not sufficient for classification
Ethyl Alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification
Ethyl Alcohol	In vivo	Some positive data exist, but the data are not sufficient for classification
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	In Vitro	Some positive data exist, but the data are not sufficient for classification
Isopropyl Alcohol	In Vitro	Not mutagenic
Isopropyl Alcohol	In vivo	Not mutagenic
Methyl isobutyl ketone	In Vitro	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
Methyl Alcohol	Inhalation	Multiple animal species	Not carcinogenic
Ethyl Alcohol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
Isopropyl Alcohol	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Methyl isobutyl ketone	Inhalation	Multiple animal species	Carcinogenic

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

Name	Route	Value	Species	Test Result	Exposure Duration
Triphenylbenzylphosphonium salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	prematuring into lactation
Triphenylbenzylphosphonium salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Ingestion	Toxic to female reproduction	Rat	LOAEL 30 mg/kg/day	prematuring into lactation
Triphenylbenzylphosphonium salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	Ingestion	Toxic to male reproduction	Rat	LOAEL 30 mg/kg/day	55 days
Methyl Alcohol	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,600 mg/kg/day	21 days
Methyl Alcohol	Ingestion	Toxic to development	Mouse	LOAEL 4,000 mg/kg/day	during organogenesis
Methyl Alcohol	Inhalation	Toxic to development	Mouse	NOAEL 1.3 mg/l	during organogenesis
Ethyl Alcohol	Inhalation	Not classified for development	Rat	NOAEL 38 mg/l	during gestation
Ethyl Alcohol	Ingestion	Not classified for development	Rat	NOAEL 5,200 mg/kg/day	prematuring & during gestation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Ingestion	Not classified for development	Rat	NOAEL 100 mg/kg/day	prematuring into lactation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Ingestion	Toxic to female reproduction	Rat	LOAEL 30 mg/kg/day	prematuring into lactation
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Ingestion	Toxic to male reproduction	Rat	LOAEL 30 mg/kg/day	55 days
Isopropyl Alcohol	Ingestion	Not classified for development	Rat	NOAEL 400 mg/kg/day	during organogenesis
Isopropyl Alcohol	Inhalation	Not classified for development	Rat	LOAEL 9 mg/l	during gestation
Methyl isobutyl ketone	Inhalation	Not classified for female reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
Methyl isobutyl ketone	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Methyl isobutyl ketone	Inhalation	Not classified for male reproduction	Multiple animal species	NOAEL 8.2 mg/l	2 generation
Methyl isobutyl ketone	Inhalation	Not classified for development	Mouse	NOAEL 12.3 mg/l	during organogenesis

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

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Methyl Alcohol	Inhalation	blindness	Causes damage to organs	Human	NOAEL Not available	occupational exposure
Methyl Alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	not available
Methyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	6 hours
Methyl Alcohol	Ingestion	blindness	Causes damage to organs	Human	NOAEL Not available	poisoning and/or abuse
Methyl Alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Ethyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	LOAEL 9.4 mg/l	not available
Ethyl Alcohol	Inhalation	central nervous system depression	Not classified	Human and animal	NOAEL not available	
Ethyl Alcohol	Ingestion	central nervous system depression	Not classified	Multiple animal species	NOAEL not available	
Ethyl Alcohol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg	
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Isopropyl Alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Isopropyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Isopropyl Alcohol	Inhalation	auditory system	Not classified	Guinea pig	NOAEL 13.4 mg/l	24 hours
Isopropyl Alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Methyl isobutyl ketone	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	LOAEL 0.1 mg/l	2 hours
Methyl isobutyl ketone	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL 0.9 mg/l	7 minutes
Methyl isobutyl ketone	Inhalation	vascular system	Not classified	Dog	NOAEL Not available	not available
Methyl isobutyl ketone	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	LOAEL 900 mg/kg	not applicable

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
Methyl Alcohol	Inhalation	liver	Not classified	Rat	NOAEL 6.55 mg/l	4 weeks
Methyl Alcohol	Inhalation	respiratory system	Not classified	Rat	NOAEL 13.1 mg/l	6 weeks
Methyl Alcohol	Ingestion	liver nervous system	Not classified	Rat	NOAEL 2,500 mg/kg/day	90 days
Ethyl Alcohol	Inhalation	liver	Some positive data exist, but the data are not sufficient for classification	Rabbit	LOAEL 124 mg/l	365 days
Ethyl Alcohol	Inhalation	hematopoietic system immune system	Not classified	Rat	NOAEL 25 mg/l	14 days

Ethyl Alcohol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 8,000 mg/kg/day	4 months
Ethyl Alcohol	Ingestion	kidney and/or bladder	Not classified	Dog	NOAEL 3,000 mg/kg/day	7 days
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol]	Ingestion	heart endocrine system gastrointestinal tract hematopoietic system liver nervous system kidney and/or bladder	Not classified	Rat	NOAEL 100 mg/kg/day	28 days
Isopropyl Alcohol	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 12.3 mg/l	24 months
Isopropyl Alcohol	Inhalation	nervous system	Not classified	Rat	NOAEL 12 mg/l	13 weeks
Isopropyl Alcohol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 400 mg/kg/day	12 weeks
Methyl isobutyl ketone	Inhalation	liver	Not classified	Rat	NOAEL 0.41 mg/l	13 weeks
Methyl isobutyl ketone	Inhalation	heart	Not classified	Multiple animal species	NOAEL 0.8 mg/l	2 weeks
Methyl isobutyl ketone	Inhalation	kidney and/or bladder	Not classified	Multiple animal species	NOAEL 0.4 mg/l	90 days
Methyl isobutyl ketone	Inhalation	respiratory system	Not classified	Multiple animal species	NOAEL 4.1 mg/l	14 weeks
Methyl isobutyl ketone	Inhalation	endocrine system hematopoietic system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	90 days
Methyl isobutyl ketone	Inhalation	nervous system	Not classified	Multiple animal species	NOAEL 0.41 mg/l	13 weeks
Methyl isobutyl ketone	Ingestion	endocrine system hematopoietic system liver kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
Methyl isobutyl ketone	Ingestion	heart immune system muscles nervous system respiratory system	Not classified	Rat	NOAEL 1,040 mg/kg/day	120 days

Aspiration Hazard

Name	Value
Methyl isobutyl ketone	Some positive data exist, but 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.

Incinerate in a permitted waste incineration facility. Combustion products will include HF. Facility must be capable of handling halogenated materials. As a disposal alternative, utilize an acceptable permitted waste disposal facility. 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

Reproductive toxicity

Serious eye damage or eye 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>
Methyl Alcohol	67-56-1	Trade Secret 30 - 40
Methyl isobutyl ketone	108-10-1	Trade Secret <= 0.2

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 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:** 3 **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: *4 **Flammability:** 3 **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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