Safety Data Sheet

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Document group:	07-4422-7	**Version number:**	22.00
Issue Date:	2025/09/25	**Supersedes Date:**	2022/02/24

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

SECTION 1: Identification

1.1. Product identifier
3M(TM) AUTO GLASS URETHANE WINDSHIELD ADHESIVE, PN 08564, 08693, 08695

1.2. Recommended use and restrictions on use

Intended Use
Adhesive

Specific Use
Adhesive/Sealant for Windshields

Restrictions on use
Not applicable

1.3. Supplier's details

Company:	3M Canada Company
Division:	Automotive Aftermarket
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 / 1800 364 3577

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Respiratory Sensitizer: Category 1.
Skin Sensitizer: Category 1A.
Carcinogenicity: Category 1A.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (repeated exposure): Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Health Hazard |

Pictograms



Hazard Statements

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction. May cause cancer. May damage fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure: cardiovascular system | kidney/urinary tract | liver | nervous system | respiratory system | sensory organs.

Precautionary statements

Prevention:
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe vapours, dust, or spray. Wash exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves and if needed, respiratory protection (see SDS Section 8). 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 exposed or concerned: Get medical attention. Get medical attention if you feel unwell. 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 locked up.

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

2.3. Other hazards
None known.

39% of the mixture consists of ingredients of unknown acute oral toxicity.
39% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt	Common Name
Urethane Polymer	Trade Secret	30 - 60	Not Applicable
Carbon Black	1333-86-4	10 - 30 Trade Secret *	Carbon black
Sulfonic Acids, C10-18-Alkane Ph Esters	70775-94-9	10 - 30	Sulfonic acids, C10-18-alkane, Ph esters
Kaolin, Calcined	92704-41-1	10 - 20	Kaolin, calcined

Hydrotreated Light Petroleum Distillates	64742-47-8	1 - 5 Trade Secret *	No Data Available
Toluene	108-88-3	1 - 5 Trade Secret *	No Data Available
P,P'-Methylenebis(phenyl isocyanate)	101-68-8	0.1 - 1 Trade Secret *	Benzene, 1,1'-methylenebis[4-isocyanato-
p-Toluenesulfonamide	70-55-3	0.1 - 1	Benzenesulfonamide, 4-methyl-
3-(Trimethoxysilyl)propyl Glycidyl Ether	2530-83-8	< 0.3	Silane, trimethoxy[3-(oxiranylmethoxy)propyl]-
Quartz Silica	14808-60-7	0 - 0.1 Trade Secret *	Quartz (SiO2)
Dibutyltin Dichloride	683-18-1	< 0.05	Stannane, dibutyldichloro-
TRIBUTYLTIN CHLORIDE	1461-22-9	< 0.001	No Data Available

Urethane Polymer is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret.

*The concentration (exact or range) of this component 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 wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:
If exposed, flush eyes with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms develop, 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

Allergic respiratory reaction (difficulty breathing, wheezing, cough, and tightness of chest). Allergic skin reaction (redness, swelling, blistering, and itching). 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
Not applicable

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media
No Information Available

5.2. Unsuitable extinguishing media
DO NOT USE WATER

5.3. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Carbon monoxide	During Combustion

Carbon dioxide	During Combustion

5.4. Special protection 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
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. Evacuate area. 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.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
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. Vacuum or sweep up. WARNING ! A motor could be an ignition source and cause flammable gases or vapours or dust in the spill area to burn or explode. 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. 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
For industrial or professional use only. Not for consumer sale or use. 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. Do not breathe dust/fume/gas/mist/vapours/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. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) Keep away from reactive metals (eg. Aluminum, zinc etc.) to avoid the formation of hydrogen gas that could create an explosion hazard. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines. Store locked up.

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

Toluene	108-88-3	ACGIH	TWA:20 ppm	
Carbon Black	1333-86-4	ACGIH	TWA(inhalable fraction):3 mg/m3	
TIN, ORGANIC COMPOUNDS	1461-22-9	ACGIH	TWA(as Sn):0.1 mg/m3;STEL(as Sn):0.2 mg/m3	Danger of cutaneous absorption
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	
TIN, ORGANIC COMPOUNDS	683-18-1	ACGIH	TWA(as Sn):0.1 mg/m3;STEL(as Sn):0.2 mg/m3	Danger of cutaneous absorption

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 ventilated enclosure for curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. 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

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:
Safety Glasses with side shields

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.

For prolonged or repeated contact, gloves made from the following material(s) are recommended (breakthrough times are >4 hours): Butyl Rubber, Neoprene, Nitrile Rubber

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 vapours and particulates

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
Specific Physical Form:	Paste
Colour	Black
Odour	Mild Neutral
Odour threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point	110 ºC
Flash Point	No flash point
Evaporation rate	*No Data Available*
Flammability	Not Applicable
Flammable Limits(LEL)	1.2 % volume
Flammable Limits(UEL)	7.1 % volume
Vapour Pressure	2,900 Pa [*Ref Std:*AIR=1]
Relative Vapour Density	3.14 [*Ref Std:*AIR=1]
Density	1.205 g/cm3
Relative density	1.2 [*Ref Std:*WATER=1]
Water solubility	Negligible
Solubility- non-water	*No Data Available*
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	450 ºC
Decomposition temperature	*No Data Available*
Kinematic Viscosity	*No Data Available*
Volatile Organic Compounds	70 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Percent volatile	5.8 % weight
VOC Less H2O & Exempt Solvents	70 g/l [*Test Method:*calculated SCAQMD rule 443.1]
Molecular weight	*No Data Available*

Particle Characteristics	
Primary particle dia-median	18 - 61 nm (*Carbon Black*)
Shape of Primary particle	Other (see details) (*Carbon Black*)
Specific surface area	21 - 1,200 m2/g (*Carbon Black*)

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

Heat
High shear and high temperature conditions
Sparks and/or flames
Temperatures above the boiling point

10.5. Incompatible materials
Amines
Alcohols
Water
Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.
Accelerators
Al or Mg powder and high/shear temperature conditions
Alkali and alkaline earth metals
Reactive metals
Reducing agents
Strong acids
Strong bases
Strong oxidizing agents
Combustibles
Finely divided active metals
Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

10.6. Hazardous decomposition products

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

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

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

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:
Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision. Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears. Olfactory Effects: Signs/symptoms may include decreased ability to detect odours and/or complete loss of smell. Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.
The Hazardous Substance Assessment for toluene published by Health Canada concludes that toluene also causes target organ toxicity through prolonged or repeated exposure to the cardiovascular system (heart), respiratory system (lung), kidney, and liver. Cardiac Effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal. Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure. Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination. Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

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
Silica, Crystalline (Respirable Size)	14808-60-7	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Carbon black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Silica dust, crystalline, in the form of quartz or cristobalite	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on 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-Vapor(4 hr)		No data available; calculated ATE >50 mg/l
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Sulfonic Acids, C10-18-Alkane Ph Esters	Dermal	Rat	LD50 > 1,000 mg/kg
Sulfonic Acids, C10-18-Alkane Ph Esters	Ingestion	Rat	LD50 > 5,000 mg/kg
Carbon Black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon Black	Ingestion	Rat	LD50 > 8,000 mg/kg
Kaolin, Calcined	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.07 mg/l
Kaolin, Calcined	Dermal	similar compounds	LD50 > 5,000 mg/kg
Kaolin, Calcined	Ingestion	similar compounds	LD50 > 5,000 mg/kg

Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg
Hydrotreated Light Petroleum Distillates	Ingestion	Rat	LD50 > 15,000 mg/kg
Hydrotreated Light Petroleum Distillates	Dermal	similar compounds	LD50 > 5,000 mg/kg
p-Toluenesulfonamide	Dermal	Rat	LD50 > 2,000 mg/kg
p-Toluenesulfonamide	Ingestion	Rat	LD50 > 2,000 mg/kg
P,P'-Methylenebis(phenyl isocyanate)	Dermal	Rabbit	LD50 > 5,000 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
3-(Trimethoxysilyl)propyl Glycidyl Ether	Dermal	Rabbit	LD50 4,000 mg/kg
3-(Trimethoxysilyl)propyl Glycidyl Ether	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.3 mg/l
3-(Trimethoxysilyl)propyl Glycidyl Ether	Ingestion	Rat	LD50 7,010 mg/kg
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg
Dibutyltin Dichloride	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.059 mg/l
Dibutyltin Dichloride	Ingestion	Rat	LD50 219 mg/kg
TRIBUTYLTIN CHLORIDE	Dermal	Rabbit	LD50 500 mg/kg
TRIBUTYLTIN CHLORIDE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 Not Available
TRIBUTYLTIN CHLORIDE	Ingestion	Rat	LD50 101 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Carbon Black	Rabbit	No significant irritation
Kaolin, Calcined	Rabbit	No significant irritation
Toluene	Rabbit	Irritant
Hydrotreated Light Petroleum Distillates	similar compounds	Mild irritant
p-Toluenesulfonamide	Rabbit	No significant irritation
P,P'-Methylenebis(phenyl isocyanate)	official classification	Irritant
3-(Trimethoxysilyl)propyl Glycidyl Ether	Rabbit	Mild irritant
Quartz Silica	Professional judgement	No significant irritation
Dibutyltin Dichloride	Multiple animal species	Corrosive
TRIBUTYLTIN CHLORIDE	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
Carbon Black	Rabbit	No significant irritation
Kaolin, Calcined	Rabbit	No significant irritation
Toluene	Rabbit	Moderate irritant
Hydrotreated Light Petroleum Distillates	similar	No significant irritation

	compounds	
p-Toluenesulfonamide	Rabbit	No significant irritation
P,P'-Methylenebis(phenyl isocyanate)	official classification	Severe irritant
3-(Trimethoxysilyl)propyl Glycidyl Ether	Rabbit	Corrosive
Dibutyltin Dichloride	Rabbit	Corrosive
TRIBUTYLTIN CHLORIDE	Rabbit	Corrosive

Skin Sensitization

Name	Species	Value
Toluene	Guinea pig	Not classified
Hydrotreated Light Petroleum Distillates	similar compounds	Not classified
P,P'-Methylenebis(phenyl isocyanate)	Mouse	Sensitizing
3-(Trimethoxysilyl)propyl Glycidyl Ether	Guinea pig	Not classified
Dibutyltin Dichloride	similar compounds	Sensitizing
TRIBUTYLTIN CHLORIDE	Mouse	Sensitizing

Respiratory Sensitization

Name	Species	Value
P,P'-Methylenebis(phenyl isocyanate)	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
Carbon Black	In Vitro	Not mutagenic
Carbon Black	In vivo	Some positive data exist, but the data are not sufficient for classification
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
Hydrotreated Light Petroleum Distillates	In Vitro	Not mutagenic
P,P'-Methylenebis(phenyl isocyanate)	In Vitro	Some positive data exist, but the data are not sufficient for classification
3-(Trimethoxysilyl)propyl Glycidyl Ether	In Vitro	Some positive data exist, but the data are not sufficient for classification
3-(Trimethoxysilyl)propyl Glycidyl Ether	In vivo	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In Vitro	Some positive data exist, but the data are not sufficient for classification
Quartz Silica	In vivo	Some positive data exist, but the data are not sufficient for classification
Dibutyltin Dichloride	In Vitro	Some positive data exist, but the data are not sufficient for classification
Dibutyltin Dichloride	In vivo	Mutagenic
TRIBUTYLTIN CHLORIDE	In Vitro	Not mutagenic
TRIBUTYLTIN CHLORIDE	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Carbon Black	Dermal	Mouse	Not carcinogenic
Carbon Black	Ingestion	Mouse	Not carcinogenic
Carbon Black	Inhalation	Rat	Carcinogenic
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not

			sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
3-(Trimethoxysilyl)propyl Glycidyl Ether	Dermal	Mouse	Not carcinogenic
Quartz Silica	Inhalation	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Toluene	Inhalation	Not classified for female reproduction	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Not classified for male reproduction	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse
p-Toluenesulfonamide	Ingestion	Not classified for reproduction and/or development	Rat	NOAEL 300 mg/kg/day	premating & during gestation
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	Not classified for development	Rat	NOAEL 0.004 mg/l	during organogenesis
3-(Trimethoxysilyl)propyl Glycidyl Ether	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(Trimethoxysilyl)propyl Glycidyl Ether	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	1 generation
3-(Trimethoxysilyl)propyl Glycidyl Ether	Ingestion	Not classified for development	Rat	NOAEL 3,000 mg/kg/day	during organogenesis
Dibutyltin Dichloride	Ingestion	Not classified for male reproduction	Rat	NOAEL 12 mg/kg/day	28 days
Dibutyltin Dichloride	Ingestion	Toxic to female reproduction	Rat	NOAEL 1.7 mg/kg/day	premating into lactation
Dibutyltin Dichloride	Ingestion	Toxic to development	Rat	NOAEL 1.7 mg/kg/day	premating into lactation
TRIBUTYLTIN CHLORIDE	Ingestion	Not classified for male reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
TRIBUTYLTIN CHLORIDE	Ingestion	Toxic to female reproduction	Rat	NOAEL 2 mg/kg/day	2 generation
TRIBUTYLTIN CHLORIDE	Ingestion	Toxic to development	Rat	LOAEL 0.025 mg/kg/day	weeks

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	poisoning and/or abuse
Hydrotreated Light Petroleum Distillates	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for	similar health	NOAEL Not available	

			classification	hazards		
P,P'-Methylenebis(phenyl isocyanate)	Inhalation	respiratory irritation	May cause respiratory irritation	official classification	NOAEL Not available	
Dibutyltin Dichloride	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL not available	
Dibutyltin Dichloride	Ingestion	immune system	Causes damage to organs	Rat	LOAEL 5 mg/kg	
TRIBUTYLTIN CHLORIDE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not Available	
TRIBUTYLTIN CHLORIDE	Ingestion	immune system	Causes damage to organs	Rat	NOAEL 5 mg/kg	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Carbon Black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Kaolin, Calcined	Inhalation	pneumoconiosis	Not classified	similar compounds	NOAEL not available	occupational exposure
Toluene	Inhalation	auditory system | nervous system | eyes | olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart | liver | kidney and/or bladder	Not classified	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Not classified	Rat	NOAEL 1.1 mg/l	4 weeks
Toluene	Inhalation	immune system	Not classified	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Not classified	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system | vascular system	Not classified	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	gastrointestinal tract	Not classified	Multiple animal species	NOAEL 11.3 mg/l	15 weeks
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Not classified	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver | kidney and/or bladder	Not classified	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Not classified	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Not classified	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Not classified	Mouse	NOAEL 105 mg/kg/day	4 weeks
Hydrotreated Light Petroleum Distillates	Inhalation	liver	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Light Petroleum Distillates	Inhalation	kidney and/or bladder	Not classified	Rat	LOAEL 1.5 mg/l	13 weeks
Hydrotreated Light Petroleum Distillates	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 6 mg/l	13 weeks
Hydrotreated Light Petroleum Distillates	Ingestion	liver	Not classified	Rat	NOAEL 1,000	13 weeks

					mg/kg/day	
Hydrotreated Light Petroleum Distillates	Ingestion	kidney and/or bladder	Not classified	Rat	LOAEL 100 mg/kg/day	13 weeks
Hydrotreated Light Petroleum Distillates	Ingestion	hematopoietic system | eyes	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
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
3-(Trimethoxysilyl)propyl Glycidyl Ether	Ingestion	heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | nervous system | kidney and/or bladder | respiratory system	Not classified	Rat	NOAEL 1,000 mg/kg/day	28 days
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Dibutyltin Dichloride	Ingestion	immune system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.3 mg/kg/day	28 days
Dibutyltin Dichloride	Ingestion	hematopoietic system | liver | nervous system | kidney and/or bladder	Not classified	Rat	NOAEL 12 mg/kg/day	28 days
TRIBUTYLTIN CHLORIDE	Ingestion	liver | immune system	Causes damage to organs through prolonged or repeated exposure	Rat	LOAEL 0.36 mg/kg/day	28 days
TRIBUTYLTIN CHLORIDE	Ingestion	kidney and/or bladder | hematopoietic system	Not classified	Rat	NOAEL 1.5 mg/kg/day	28 days

The Hazardous Substance Assessment for toluene published by Health Canada concludes that toluene also causes adverse effects to the cardiovascular system (heart), respiratory system (lung), kidney, and liver following repeated chronic inhalation exposure to humans.

Aspiration Hazard

Name	Value
Toluene	Aspiration hazard
Hydrotreated Light Petroleum Distillates	Aspiration hazard

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 completely cured (or polymerized) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. 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.

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

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: 2 **Flammability:** 1 **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.

Document group:	07-4422-7	**Version number:**	22.00
Issue Date:	2025/09/25	**Supersedes Date:**	2022/02/24

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3M Canada SDSs are available at www.3M.ca