Safety Data Sheet

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

SECTION 1: Identification

1.1. Product identifier
3M™ Scotch-Weld™ Toughened Epoxy Adhesive LSB60NS, Gray , Part A

Product Identification Numbers
62-3662-8532-8 62-3662-9532-7 62-3662-9533-5

1.2. Recommended use and restrictions on use

Intended Use
Structural adhesive

Restrictions on use
Not applicable

1.3. Supplier's details

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

1.4. Emergency telephone number
Medical Emergency Telephone:1-800-3M HELPS / 1800 364 3577

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Skin Corrosion/Irritation: Category 1C.
Serious Eye Damage/Irritation: Category 1.
Skin Sensitizer: Category 1A.
Reproductive Toxicity: Category 1B.
Specific Target Organ Toxicity (single exposure): Category 1.
Health Hazards Not Otherwise Classified - Category 1

2.2. Label elements
Signal word

Danger

Symbols
Corrosion |Exclamation mark |Health Hazard |

Pictograms



Hazard Statements

Causes severe skin burns and eye damage. May cause an allergic skin reaction. May damage fertility or the unborn child. May cause chemical gastrointestinal burns.
Causes damage to organs: blood or blood-forming organs.

Precautionary statements

Prevention:
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe fumes. 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, protective clothing, eye protection, face protection, and if needed, respiratory protection (see SDS Section 8).

Response:
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. 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. Immediately call a POISON CENTER or doctor. Specific treatment (see Notes to Physician on this label). If skin irritation or rash occurs: Get medical attention. 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.

Notes to Physician:
Overexposure to this product may result in methemoglobinemia. Methemoglobinemia may be clinically suspected by the presence of clinical "cyanosis" in the presence of a normal PaO2 (as obtained by arterial blood gases). Routine pulse oximetry may be inaccurate for monitoring oxygen saturation in the presence of methemoglobinemia, and should not be used to make the diagnosis of this disorder. If the patient is symptomatic or if the methemoglobin level is >20%, specific therapy with methylene blue should be consider as part of the medical management

2.3. Other hazards
None known.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt	Common Name
Fillers	Trade Secret	20 - 40	Not Applicable

Aliphatic Polymer Diamine	68911-25-1	10 - 30 Trade Secret *	Fatty acids, C18-unsatd., dimers, polymers with 3,3'-[oxybis(2,1-ethanediyloxy)]bis[1-propanamine]
Poly(oxypropylene)diamine	9046-10-0	10 - 30 Trade Secret *	Poly[oxy(methyl-1,2-ethanediyl)], .alpha.-(2-aminomethylethyl)-.omega.-(2-aminomethylethoxy)-
Acrylate Polymer	Trade Secret	1 - 20	Not Applicable
Benzoate Ester	131298-44-7	1 - 20	Benzoic acid, C9-11-branched alkyl esters
2,4,6-Tris((dimethylamino)methyl)phenol	90-72-2	1 - 5 Trade Secret *	Phenol, 2,4,6-tris[(dimethylamino)methyl]-
Nitric acid, ammonium calcium salt	15245-12-2	1 - 5 Trade Secret *	No Data Available
bis(3-aminopropyl)ether of diethylene glycol	4246-51-9	0.1 - 1 Trade Secret *	1-Propanamine, 3,3'-[oxybis(2,1-ethanediyloxy)]bis-
Titanium Dioxide	13463-67-7	0.1 - 1 Trade Secret *	Titanium oxide (TiO2)
Quartz Silica	14808-60-7	< 0.2	Quartz (SiO2)
Toluene	108-88-3	< 0.2	No Data Available

Fillers is a non-hazardous material according to WHMIS criteria. Specific information has been withheld as a trade secret. Acrylate 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 flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

Eye Contact:
Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

If Swallowed:
Rinse mouth. Do not induce vomiting. Get immediate medical attention.

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

Skin burns (localized redness, swelling, itching, intense pain, blistering, and tissue destruction). Allergic skin reaction (redness, swelling, blistering, and itching). Serious damage to the eyes (corneal cloudiness, severe pain, tearing, ulcerations, and significantly impaired or loss of vision). Target organ effects. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required
Overexposure to this product may result in methemoglobinemia. Methemoglobinemia may be clinically suspected by the presence of clinical "cyanosis" in the presence of a normal PaO2 (as obtained by arterial blood gases). Routine pulse oximetry may be inaccurate for monitoring oxygen saturation in the presence of methemoglobinemia, and should not be used to make the diagnosis of this disorder. If the patient is symptomatic or if the methemoglobin level is >20%, specific therapy with methylene blue 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 ordinary combustible material such as water or foam to extinguish.

5.2. Unsuitable extinguishing media
None Determined

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

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Ketones	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. 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. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial or professional use only. Not for consumer sale or use. 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.) Use personal protective equipment (gloves, respirators, etc.)

as required.

7.2. Conditions for safe storage including any incompatibilities
Store away from acids. Store away from oxidizing agents. 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	
Titanium Dioxide	13463-67-7	ACGIH	TWA(Respirable nanoscale particles):0.2 mg/m3;TWA(Respirable finescale particles):2.5 mg/m3	
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	
Fillers	Trade Secret	ACGIH	TWA(inhalable particulates):10 mg/m3	
Fillers	Trade Secret	ACGIH	TWA(respirable particles):3 mg/m3	

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
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:
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.

For prolonged or repeated contact, gloves made from the following material(s) are recommended (breakthrough times are >4 hours): Butyl Rubber, 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
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
Specific Physical Form:	Viscous
Colour	White
Odour	Moderate Amine
Odour threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point	*Not Applicable*
Flash Point	>=115.6 ºC [*Test Method:*Closed Cup]
Evaporation rate	*Not Applicable*
Flammability	Not Applicable
Flammable Limits(LEL)	*Not Applicable*
Flammable Limits(UEL)	*Not Applicable*
Vapour Pressure	<=4 Pa [@ 20 ºC]
Relative Vapour Density	*No Data Available*
Density	1.17 g/ml
Relative density	1.17 [*Ref Std:*WATER=1]
Water solubility	Insoluble
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	76,923 - 85,470 mm2/sec
Volatile Organic Compounds	*No Data Available*
Percent volatile	*No Data Available*
VOC Less H2O & Exempt Solvents	< 1 g/l [*Test Method:*calculated per EPA method 24] [*Details:*when used as intended with Part B]
VOC Less H2O & Exempt Solvents	< 2 g/l [*Test Method:*calculated per EPA method 24] [*Details:*as supplied]
VOC Less H2O & Exempt Solvents	< 0.1 % [*Test Method:*calculated per EPA method 24] [*Details:*when used as intended with Part B]

Molecular weight	*No Data Available*

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.

10.3. Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4. Conditions to avoid
Heat is generated during cure. Do not cure a mass larger than 50 grams in a confined space to prevent a premature exothermic reaction with production of intense heat and smoke.

10.5. Incompatible materials
Strong acids
Strong oxidizing agents

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. May cause additional health effects (see below).

Skin Contact:
Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:
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:
May be harmful if swallowed. Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and diarrhea; blood in the feces and/or vomitus may also be seen. May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Methemoglobinemia: Signs/symptoms may include headache, dizziness, nausea, difficulty breathing, and generalized weakness.

Reproductive/Developmental Toxicity:
Contains a chemical or chemicals which can cause birth defects or other reproductive harm.

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Silica, Crystalline (Respirable Size)	14808-60-7	Known To Be Human Carcinogen.	National Toxicology Program Carcinogens
Silica dust, crystalline, in the form of quartz or cristobalite	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Additional Information:
Persons previously sensitized to amines may develop a cross-sensitization reaction to certain other amines.

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	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Fillers	Dermal	Rat	LD50 > 2,000 mg/kg
Fillers	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Fillers	Ingestion	Rat	LD50 6,450 mg/kg
Poly(oxypropylene)diamine	Dermal	Rabbit	LD50 2,980 mg/kg
Poly(oxypropylene)diamine	Ingestion	Rat	LD50 2,885 mg/kg
Aliphatic Polymer Diamine	Dermal	Rat	LD50 > 2,000 mg/kg
Aliphatic Polymer Diamine	Ingestion	Rat	LD50 > 2,000 mg/kg
Benzoate Ester	Dermal	Rabbit	LD50 > 2,000 mg/kg
Benzoate Ester	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.5 mg/l
Benzoate Ester	Ingestion	Rat	LD50 > 5,000 mg/kg
Acrylate Polymer	Dermal		LD50 estimated to be > 5,000 mg/kg
Acrylate Polymer	Ingestion	Rat	LD50 > 5,000 mg/kg
2,4,6-Tris((dimethylamino)methyl)phenol	Dermal	Rat	LD50 1,280 mg/kg
2,4,6-Tris((dimethylamino)methyl)phenol	Ingestion	Rat	LD50 1,000 mg/kg
Nitric acid, ammonium calcium salt	Ingestion	Rat	LD50 >300, <2000 mg/kg
Nitric acid, ammonium calcium salt	Dermal	similar compounds	LD50 > 2,000 mg/kg
bis(3-aminopropyl)ether of diethylene glycol	Dermal	Rabbit	LD50 2,525 mg/kg
bis(3-aminopropyl)ether of diethylene glycol	Ingestion	Rat	LD50 2,850 mg/kg
Titanium Dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg

Titanium Dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.82 mg/l
Titanium Dioxide	Ingestion	Rat	LD50 > 10,000 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
Quartz Silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz Silica	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Fillers	Rabbit	No significant irritation
Poly(oxypropylene)diamine	Rabbit	Corrosive
Aliphatic Polymer Diamine	Rat	Irritant
Benzoate Ester	Rabbit	Minimal irritation
2,4,6-Tris((dimethylamino)methyl)phenol	Rabbit	Corrosive
Nitric acid, ammonium calcium salt	similar compounds	No significant irritation
bis(3-aminopropyl)ether of diethylene glycol	Rabbit	Corrosive
Titanium Dioxide	Rabbit	No significant irritation
Toluene	Rabbit	Irritant
Quartz Silica	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Fillers	Rabbit	No significant irritation
Poly(oxypropylene)diamine	Rabbit	Corrosive
Aliphatic Polymer Diamine	In vitro data	Severe irritant
Benzoate Ester	Rabbit	Mild irritant
2,4,6-Tris((dimethylamino)methyl)phenol	Rabbit	Corrosive
Nitric acid, ammonium calcium salt	Rabbit	Corrosive
bis(3-aminopropyl)ether of diethylene glycol	Rabbit	Corrosive
Titanium Dioxide	Rabbit	No significant irritation
Toluene	Rabbit	Moderate irritant

Skin Sensitization

Name	Species	Value
Poly(oxypropylene)diamine	Guinea pig	Not classified
Aliphatic Polymer Diamine	Guinea pig	Sensitizing
Benzoate Ester	Guinea pig	Not classified
2,4,6-Tris((dimethylamino)methyl)phenol	Guinea pig	Not classified
Nitric acid, ammonium calcium salt	Mouse	Not classified
bis(3-aminopropyl)ether of diethylene glycol	Professional judgement	Sensitizing
Titanium Dioxide	Human and animal	Not classified

Toluene	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
Poly(oxypropylene)diamine	In Vitro	Not mutagenic
Poly(oxypropylene)diamine	In vivo	Not mutagenic
Aliphatic Polymer Diamine	In Vitro	Not mutagenic
Benzoate Ester	In Vitro	Not mutagenic
Benzoate Ester	In vivo	Not mutagenic
2,4,6-Tris((dimethylamino)methyl)phenol	In Vitro	Not mutagenic
Nitric acid, ammonium calcium salt	In Vitro	Not mutagenic
bis(3-aminopropyl)ether of diethylene glycol	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic
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

Carcinogenicity

Name	Route	Species	Value
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	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
Quartz Silica	Inhalation	Human and animal	Carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Fillers	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	premating & during gestation
Poly(oxypropylene)diamine	Dermal	Not classified for female reproduction	Rat	NOAEL 30 mg/kg/day	premating & during gestation
Poly(oxypropylene)diamine	Dermal	Not classified for male reproduction	Rat	NOAEL 30 mg/kg/day	premating & during gestation
Poly(oxypropylene)diamine	Dermal	Not classified for development	Rat	NOAEL 30 mg/kg/day	premating & during gestation
Aliphatic Polymer Diamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Aliphatic Polymer Diamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	29 days
Aliphatic Polymer Diamine	Ingestion	Not classified for development	Rat	NOAEL 1,000	premating

				mg/kg/day	into lactation
Benzoate Ester	Ingestion	Not classified for female reproduction	Rat	NOAEL 641 mg/kg/day	2 generation
Benzoate Ester	Ingestion	Not classified for male reproduction	Rat	NOAEL 676 mg/kg/day	2 generation
Benzoate Ester	Ingestion	Not classified for development	Rat	NOAEL 191 mg/kg/day	2 generation
2,4,6-Tris((dimethylamino)methyl)phenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 150 mg/kg/day	2 generation
2,4,6-Tris((dimethylamino)methyl)phenol	Ingestion	Not classified for female reproduction	Rat	NOAEL 50 mg/kg/day	2 generation
2,4,6-Tris((dimethylamino)methyl)phenol	Ingestion	Not classified for development	Rabbit	NOAEL 15 mg/kg/day	during gestation
bis(3-aminopropyl)ether of diethylene glycol	Ingestion	Not classified for female reproduction	Rat	NOAEL 600 mg/kg/day	premating into lactation
bis(3-aminopropyl)ether of diethylene glycol	Ingestion	Not classified for male reproduction	Rat	NOAEL 600 mg/kg/day	59 days
bis(3-aminopropyl)ether of diethylene glycol	Ingestion	Not classified for development	Rat	NOAEL 600 mg/kg/day	premating into lactation
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

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Fillers	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes
Poly(oxypropylene)diamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Aliphatic Polymer Diamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	Irritation Positive	
Aliphatic Polymer Diamine	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Rat	NOAEL Not available	
2,4,6-Tris((dimethylamino)methyl)phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Nitric acid, ammonium calcium salt	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
Nitric acid, ammonium calcium salt	Ingestion	methemoglobinemia	Causes damage to organs	similar compounds	NOAEL Not available	
bis(3-aminopropyl)ether of diethylene glycol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
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

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Fillers	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Aliphatic Polymer Diamine	Ingestion	heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	29 days
Benzoate Ester	Ingestion	heart | skin | endocrine system | gastrointestinal tract | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 619 mg/kg/day	91 days
2,4,6-Tris((dimethylamino)methyl)phenol	Dermal	skin	Not classified	Rat	NOAEL 25 mg/kg/day	4 weeks
2,4,6-Tris((dimethylamino)methyl)phenol	Dermal	liver | nervous system | auditory system | hematopoietic system | eyes	Not classified	Rat	NOAEL 125 mg/kg/day	4 weeks
2,4,6-Tris((dimethylamino)methyl)phenol	Ingestion	heart | endocrine system | hematopoietic system | liver | muscles | nervous system | kidney and/or bladder | respiratory system | vascular system | auditory system | skin | gastrointestinal tract | bone, teeth, nails, and/or hair | immune system | eyes	Not classified	Rat	NOAEL 150 mg/kg/day	90 days
bis(3-aminopropyl)ether of diethylene glycol	Ingestion	gastrointestinal tract | heart | endocrine system | bone, teeth, nails, and/or hair | hematopoietic system | liver | immune system | muscles | nervous system | eyes | kidney and/or bladder | respiratory system | vascular system	Not classified	Rat	NOAEL 600 mg/kg/day	59 days

Titanium Dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.01 mg/l	2 years
Titanium Dioxide	Inhalation	pulmonary fibrosis	Not classified	Human	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
Quartz Silica	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
Poly(oxypropylene)diamine	Some positive data exist, but the data are not sufficient for classification
Toluene	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 material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). 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 new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.
Health: 3 **Flammability:** 1 **Instability:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

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