



Safety Data Sheet

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SECTION 1: Identification

1.1. Product identifier

3M™ Scotchkote™ Liquid Epoxy Coating 323+ Spray Grade, Part B

Product Identification Numbers

LH-A100-1964-1, LH-A100-2082-7, LH-A100-2082-8, 80-6116-1748-3, 80-6116-1750-9, 80-6116-1773-1
7100136969, 7100137058, 7100270449

1.2. Recommended use and restrictions on use

Recommended use

Coating, Part B of a 2 Part Liquid Coating System

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	Electrical Markets 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

Skin Corrosion/Irritation: Category 1B.

Serious Eye Damage/Irritation: Category 1.

Skin Sensitizer: Category 1.

Reproductive Toxicity: Category 2.

Specific Target Organ Toxicity (single exposure): Category 1.

Specific Target Organ Toxicity (repeated exposure): 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.
Suspected of damaging fertility or the unborn child.
Corrosive to the respiratory tract, if inhaled.

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

Precautionary statements**Prevention:**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe vapor 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, protective clothing, eye protection, and face protection.

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.
IF exposed or concerned: Immediately call a POISON CENTER or doctor.
Get medical attention if you feel unwell.
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.

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

Supplemental Information:

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

10% of the mixture consists of ingredients of unknown acute oral toxicity.
12% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
Nepheline Syenite	37244-96-5	30 - 50
N-Aminoethylpiperazine	140-31-8	7 - 13 Trade Secret *
Styrenated Phenol	61788-44-1	7 - 13 Trade Secret *
M-Xylene-.Alpha.Alpha'.-Diamine	1477-55-0	5 - 10 Trade Secret *
P-Tert-Butylphenol	98-54-4	5 - 10 Trade Secret *
Talc	14807-96-6	5 - 10 Trade Secret *
P-T-BUTYLPHENOL/FORMALDEHYDE/MXDA/TMD MANNICH BASE	None	< 10
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	1760-24-3	1 - 5 Trade Secret *
Trimethylhexamethylenediamine	25620-58-0	1 - 5 Trade Secret *
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]-	68845-16-9	0.1 - 1 Trade Secret *
White Mineral Oil (Petroleum)	8042-47-5	< 1
Amide/Polymer	None 3M Unique ID: 152968	0.1 - 1 Trade Secret *
Distillates, Petroleum, Solvent-Refined Light Paraffinic	64741-89-5	< 0.5

*The specific chemical identity and/or exact percentage (concentration) of this composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Remove person to fresh air. Get immediate medical attention.

Skin Contact:

Immediately 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

Corrosive to respiratory tract (severe nose and throat pain, chest tightness and pain, wheezing, and breathlessness). 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 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

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

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

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective actions for fire-fighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. 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. 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. Use personal protective equipment based on the results of an exposure assessment. Refer to Section 8 for PPE recommendations. If anticipated exposure resulting from an accidental release exceeds the protective capabilities of the PPE listed in Section 8, or are unknown, select PPE that offers an appropriate level of protection. Consider the physical and chemical hazards of the material when doing so. Examples of PPE ensembles for emergency response could include wearing bunker gear for a release of flammable material; wearing chemical protective clothing if the spilled material is a corrosive, a sensitizer, a significant dermal irritant, or can be absorbed through the skin; or donning a positive pressure supplied-air respirator for chemicals with inhalation hazards. For information regarding physical and health hazards, refer to sections 2 and 11 of the SDS.

6.2. Environmental precautions

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

Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. 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 in a well-ventilated place. Keep container tightly closed. 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
M-Xylene-.Alpha.Alpha'.-Diamine	1477-55-0	ACGIH	CEIL:0.018 ppm	Danger of cutaneous absorption
Silicates (less than 1% crystalline silica) talc (containing asbestos)	14807-96-6	OSHA	TWA - Use asbestos limits:	
Talc	14807-96-6	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
Talc	14807-96-6	OSHA	TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.);TWA:20 millions of particles/cu. ft.	
OIL MIST (MINERAL)	8042-47-5	OSHA	TWA(as mist):5 mg/m3	

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

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/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Full Face Shield

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

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 (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.

The following protective clothing material(s) are also recommended: Coveralls - Disposable, laminate

Boots - Rubber

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

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

Half facepiece or full facepiece supplied-air respirator

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Color	Green
Odor	Strong Amine
Odor threshold	No Data Available
pH	No Data Available
Melting point/Freezing point	No Data Available
Boiling point/Initial boiling point/Boiling range	> 93.3 °C
Flash Point	> 93.3 °C [Test Method:Pensky-Martens Closed Cup]
Evaporation rate	< 1 [Ref Std:BUOAC=1]
Flammability	Not Applicable
Flammable Limits(LEL)	1 % volume
Flammable Limits(UEL)	7 % volume
Vapor Pressure	6.7 Pa [Test Method:Calculated] [Details:at 25C, Raoult's Law]
Relative Vapor Density	> 1 [Ref Std:AIR=1]
Density	1.43 g/ml
Relative Density	1.43 [Ref Std:WATER=1]
Water solubility	Slight (less than 10%)
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	2,797 - 13,986 mm ² /sec
Volatile Organic Compounds	0 g/l [Test Method:calculated per EPA method 24] [Details:As mixed Parts A and B]
Percent volatile	No Data Available
VOC Less H ₂ O & Exempt Solvents	Not Applicable

Particle Characteristics	Not Applicable
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SECTION 10: Stability and reactivity

10.1. Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong oxidizing agents

Reducing agents

10.6. Hazardous decomposition products**Substance**

Ammonia

Condition

During Storage

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 Corrosion: Signs/symptoms may include nasal discharge, severe nose and throat pain, chest tightness and pain, coughing up blood, wheezing, and breathlessness, possibly progressing to respiratory failure.

May cause additional health effects (see below).

Skin Contact:

May be harmful in contact with skin.

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.

May cause additional health effects (see below).

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:**Prolonged or repeated exposure may cause target organ effects:**

Dermal Effects: Signs/symptoms may include changes in skin pigmentation and/or coloration.

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

Reproductive/Developmental Toxicity:

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

Carcinogenicity:

Ingredient	CAS No.	Class Description	Regulation
Talc	14807-96-6	Grp. 2A: Probable 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 >2,000 - =5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >2,000 - =5,000 mg/kg
Nepheline Syenite	Dermal		LD50 estimated to be > 5,000 mg/kg
Nepheline Syenite	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Styrenated Phenol	Dermal	Rat	LD50 > 2,000 mg/kg
Styrenated Phenol	Ingestion	Rat	LD50 > 2,000 mg/kg
N-Aminoethylpiperazine	Dermal	Rabbit	LD50 865 mg/kg
N-Aminoethylpiperazine	Ingestion	Rat	LD50 1,470 mg/kg
Talc	Dermal		LD50 estimated to be > 5,000 mg/kg
Talc	Ingestion		LD50 estimated to be > 5,000 mg/kg
M-Xylene-.Alpha.Alpha'.-Diamine	Dermal	Rabbit	LD50 > 2,000 mg/kg
P-Tert-Butylphenol	Dermal	Rabbit	LD50 2,318 mg/kg
M-Xylene-.Alpha.Alpha'.-Diamine	Inhalation-Dust/Mist (4 hours)	Rat	LC50 1.2 mg/l
M-Xylene-.Alpha.Alpha'.-Diamine	Ingestion	Rat	LD50 980 mg/kg
P-Tert-Butylphenol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 5.6 mg/l
P-Tert-Butylphenol	Ingestion	Rat	LD50 4,000 mg/kg
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Dermal	Rabbit	LD50 > 2,000 mg/kg
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Inhalation-Dust/Mist (4 hours)	Rat	LC50 >1.49, <2.44 mg/l
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Ingestion	Rat	LD50 1,897 mg/kg
Trimethylhexamethylenediamine	Ingestion	Rat	LD50 910 mg/kg
White Mineral Oil (Petroleum)	Dermal	Rabbit	LD50 > 2,000 mg/kg
White Mineral Oil (Petroleum)	Ingestion	Rat	LD50 > 5,000 mg/kg
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]-	Dermal	Rabbit	LD50 > 2,000 mg/kg
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]-	Inhalation-Dust/Mist	Rat	LC50 >1.49, <2.44 mg/L mg/l

	(4 hours)		
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]-	Ingestion	Rat	LD50 1,897 mg/kg
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Dermal	Rabbit	LD50 > 5,000 mg/kg
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 4 mg/l
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Nepheline Syenite	Professional judgement	No significant irritation
Styrenated Phenol	Rabbit	No significant irritation
N-Aminoethylpiperazine	Rabbit	Corrosive
Talc	Rabbit	No significant irritation
M-Xylene-.Alpha.Alpha'-.Diamine	Rat	Corrosive
P-Tert-Butylphenol	Rabbit	Irritant
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Rabbit	Mild irritant
Trimethylhexamethylenediamine	Not available	Corrosive
White Mineral Oil (Petroleum)	Rabbit	No significant irritation
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]-	Rabbit	Mild irritant
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
Nepheline Syenite	Professional judgement	Mild irritant
Styrenated Phenol	Rabbit	Mild irritant
N-Aminoethylpiperazine	Rabbit	Corrosive
Talc	Rabbit	No significant irritation
M-Xylene-.Alpha.Alpha'-.Diamine	Rabbit	Corrosive
P-Tert-Butylphenol	Rabbit	Corrosive
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Rabbit	Corrosive
Trimethylhexamethylenediamine	Rabbit	Corrosive
White Mineral Oil (Petroleum)	Rabbit	Mild irritant
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]-	Rabbit	Corrosive
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
Styrenated Phenol	Mouse	Sensitizing
N-Aminoethylpiperazine	Guinea pig	Sensitizing
M-Xylene-.Alpha.Alpha'-.Diamine	Guinea pig	Sensitizing
P-Tert-Butylphenol	Human and animal	Not classified
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Multiple animal species	Sensitizing
Trimethylhexamethylenediamine	Guinea pig	Sensitizing
Amide/Polymer	Mouse	Not classified
White Mineral Oil (Petroleum)	Guinea	Not classified

	pig	
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]-	Multiple animal species	Sensitizing
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Guinea pig	Not classified

Respiratory Sensitization

Name	Species	Value
Talc	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
N-Aminoethylpiperazine	In vivo	Not mutagenic
N-Aminoethylpiperazine	In Vitro	Some positive data exist, but the data are not sufficient for classification
Talc	In Vitro	Not mutagenic
Talc	In vivo	Not mutagenic
M-Xylene-.Alpha.Alpha'-.Diamine	In Vitro	Not mutagenic
M-Xylene-.Alpha.Alpha'-.Diamine	In vivo	Not mutagenic
P-Tert-Butylphenol	In Vitro	Not mutagenic
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	In Vitro	Not mutagenic
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	In vivo	Not mutagenic
Trimethylhexamethylenediamine	In vivo	Not mutagenic
White Mineral Oil (Petroleum)	In Vitro	Not mutagenic
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]-	In Vitro	Not mutagenic
Distillates, Petroleum, Solvent-Refined Light Paraffinic	In vivo	Not mutagenic
Distillates, Petroleum, Solvent-Refined Light Paraffinic	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Talc	Dermal	Human	Some positive data exist, but the data are not sufficient for classification
Talc	Inhalation	Rat	Carcinogenic
P-Tert-Butylphenol	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
White Mineral Oil (Petroleum)	Dermal	Mouse	Not carcinogenic
White Mineral Oil (Petroleum)	Inhalation	Multiple animal species	Not carcinogenic
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification

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

Name	Route	Value	Species	Test Result	Exposure Duration
N-Aminoethylpiperazine	Ingestion	Not classified for female reproduction	Rat	NOAEL 598 mg/kg/day	premating & during gestation
N-Aminoethylpiperazine	Ingestion	Not classified for male reproduction	Rat	NOAEL 409 mg/kg/day	32 days
N-Aminoethylpiperazine	Ingestion	Toxic to development	Rabbit	NOAEL 75 mg/kg/day	during gestation
Talc	Ingestion	Not classified for development	Rat	NOAEL 1,600 mg/kg	during organogenesis
M-Xylene-.Alpha.Alpha'-.Diamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 450	premating

				mg/kg/day	into lactation
M-Xylene-.Alpha.Alpha'.-Diamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 450 mg/kg/day	48 days
M-Xylene-.Alpha.Alpha'.-Diamine	Ingestion	Not classified for development	Rat	NOAEL 450 mg/kg/day	premating into lactation
P-Tert-Butylphenol	Ingestion	Not classified for male reproduction	Rat	NOAEL 600 mg/kg/day	2 generation
P-Tert-Butylphenol	Ingestion	Not classified for development	Rat	NOAEL 70 mg/kg/day	2 generation
P-Tert-Butylphenol	Ingestion	Toxic to female reproduction	Rat	NOAEL 200 mg/kg/day	2 generation
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Ingestion	Not classified for female reproduction	Rat	NOAEL 500 mg/kg/day	premating into lactation
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Ingestion	Not classified for male reproduction	Rat	NOAEL 500 mg/kg/day	28 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	during gestation
Trimethylhexamethylenediamine	Ingestion	Not classified for male reproduction	Rat	NOAEL 120 mg/kg/day	2 generation
Trimethylhexamethylenediamine	Ingestion	Not classified for development	Rat	NOAEL 120 mg/kg/day	2 generation
Trimethylhexamethylenediamine	Ingestion	Not classified for female reproduction	Rat	NOAEL 10 mg/kg/day	2 generation
White Mineral Oil (Petroleum)	Ingestion	Not classified for female reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White Mineral Oil (Petroleum)	Ingestion	Not classified for male reproduction	Rat	NOAEL 4,350 mg/kg/day	13 weeks
White Mineral Oil (Petroleum)	Ingestion	Not classified for development	Rat	NOAEL 4,350 mg/kg/day	during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
N-Aminoethylpiperazine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
M-Xylene-.Alpha.Alpha'.-Diamine	Inhalation	respiratory irritation	May cause respiratory irritation	similar health hazards	NOAEL Not available	
P-Tert-Butylphenol	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	LOAEL 5.6 mg/l	4 hours
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)P ROPYL]-	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	similar health hazards	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
N-Aminoethylpiperazine	Dermal	skin	Not classified	Rat	NOAEL 100 mg/kg/day	29 days
N-Aminoethylpiperazine	Dermal	hematopoietic system	Not classified	Rat	NOAEL 1,000 mg/kg/day	29 days
N-Aminoethylpiperazine	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	29 days
N-Aminoethylpiperazine	Dermal	kidney and/or bladder	Not classified	Rat	NOAEL 1,000 mg/kg/day	29 days

N-Aminoethylpiperazine	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Rat	NOAEL 0.2 mg/m3	13 weeks
N-Aminoethylpiperazine	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 53.8 mg/m3	13 weeks
N-Aminoethylpiperazine	Inhalation	eyes	Not classified	Rat	NOAEL 53.8 mg/m3	13 weeks
N-Aminoethylpiperazine	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 53.8 mg/m3	13 weeks
N-Aminoethylpiperazine	Ingestion	heart	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
N-Aminoethylpiperazine	Ingestion	endocrine system	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
N-Aminoethylpiperazine	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
N-Aminoethylpiperazine	Ingestion	liver	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
N-Aminoethylpiperazine	Ingestion	nervous system	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
N-Aminoethylpiperazine	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 598 mg/kg/day	28 days
Talc	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Talc	Inhalation	pulmonary fibrosis	Not classified	Rat	NOAEL 18 mg/m3	113 weeks
Talc	Inhalation	respiratory system	Not classified	Rat	NOAEL 18 mg/m3	113 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.005 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	heart	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	skin	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	endocrine system	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	gastrointestinal tract	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	bone, teeth, nails, and/or hair	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	liver	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	immune system	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	muscles	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	nervous system	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	eyes	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Inhalation	vascular system	Not classified	Rat	NOAEL 0.03 mg/l	13 weeks
M-Xylene-.Alpha.Alpha'-.Diamine	Ingestion	endocrine system	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
M-Xylene-.Alpha.Alpha'-.Diamine	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
M-Xylene-.Alpha.Alpha'-.Diamine	Ingestion	gastrointestinal tract	Not classified	Rat	NOAEL 150 mg/kg/day	28 days
M-Xylene-.Alpha.Alpha'-.Diamine	Ingestion	heart	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
M-Xylene-.Alpha.Alpha'-.Diamine	Ingestion	liver	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
M-Xylene-.Alpha.Alpha'-.Diamine	Ingestion	immune system	Not classified	Rat	NOAEL 600 mg/kg/day	28 days
M-Xylene-.Alpha.Alpha'-.Diamine	Ingestion	kidney and/or	Not classified	Rat	NOAEL 600	28 days

Diamine		bladder			mg/kg/day	
P-Tert-Butylphenol	Ingestion	endocrine system	Not classified	Rat	NOAEL 600 mg/kg/day	2 generation
P-Tert-Butylphenol	Ingestion	liver	Not classified	Rat	NOAEL 600 mg/kg/day	2 generation
P-Tert-Butylphenol	Ingestion	kidney and/or bladder	Not classified	Rat	NOAEL 600 mg/kg/day	2 generation
P-Tert-Butylphenol	Ingestion	blood	Not classified	Rat	NOAEL 200 mg/kg	6 weeks
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Dermal	skin	Not classified	Rat	NOAEL 1,545 mg/kg/day	11 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Dermal	endocrine system	Not classified	Rat	NOAEL 1,545 mg/kg/day	11 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Dermal	hematopoietic system	Not classified	Rat	NOAEL 1,545 mg/kg/day	11 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Dermal	kidney and/or bladder	Not classified	Rat	NOAEL 1,545 mg/kg/day	11 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Inhalation	respiratory system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 0.015 mg/l	90 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Inhalation	hematopoietic system	Not classified	Rat	NOAEL 0.044 mg/l	90 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Inhalation	eyes	Not classified	Rat	NOAEL 0.044 mg/l	90 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Inhalation	kidney and/or bladder	Not classified	Rat	NOAEL 0.044 mg/l	90 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
1,2-Ethanediamine, N1-[3-(Trimethoxysilyl)propyl]-	Ingestion	nervous system	Not classified	Rat	NOAEL 500 mg/kg/day	28 days
Trimethylhexamethylenediamine	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 180 mg/kg/day	13 weeks
Trimethylhexamethylenediamine	Ingestion	liver	Not classified	Rat	NOAEL 180 mg/kg/day	13 weeks
White Mineral Oil (Petroleum)	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,381 mg/kg/day	90 days
White Mineral Oil (Petroleum)	Ingestion	liver	Not classified	Rat	NOAEL 1,336 mg/kg/day	90 days
White Mineral Oil (Petroleum)	Ingestion	immune system	Not classified	Rat	NOAEL 1,336 mg/kg/day	90 days
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXSILYL)PROPYL]-	Inhalation	respiratory system	May cause damage to organs though prolonged or repeated exposure	Rat	NOAEL 0.015 mg/l	90 days
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Dermal	hematopoietic system	Not classified	Rabbit	NOAEL 5,000 mg/kg/day	3 weeks
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Dermal	liver	Not classified	Rabbit	NOAEL 5,000 mg/kg/day	3 weeks
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Dermal	kidney and/or bladder	Not classified	Rabbit	NOAEL 5,000 mg/kg/day	3 weeks

Aspiration Hazard

Name	Value
White Mineral Oil (Petroleum)	Aspiration hazard
Distillates, Petroleum, Solvent-Refined Light Paraffinic	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

Ecotoxicological information

Please contact the address or phone number listed on the first page of the SDS for additional ecotoxicological information on this material and/or its components.

Chemical fate information

Please contact the address or phone number listed on the first page of the SDS for additional chemical fate information on this material and/or its components.

SECTION 13: Disposal considerations

13.1. Disposal methods

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

Dispose of 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.

EPA Hazardous Waste Number (RCRA): D032 (Hexachlorobenzene)

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

Not Applicable.

Health Hazards

Hazard Not Otherwise Classified (HNOC)

Reproductive toxicity

Respiratory or Skin Sensitization

Serious eye damage or eye irritation

Skin Corrosion or Irritation

Specific target organ toxicity (single or repeated exposure)

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

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 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:** 1 **Instability:** 0 **Special Hazards:** None

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

HMIS Hazard Classification

Health: *3 **Flammability:** 1 **Physical Hazard:** 0 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® IV) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® IV ratings are to be used with a fully implemented HMIS® IV program. HMIS® is a registered mark of the American Coatings Association (ACA).

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