Safety Data Sheet

Document Group:	34-5915-3	**Version Number:**	4.02
Issue Date:	12/11/25	**Supersedes Date:**	05/03/21

Product identifier
3M™ Scotchkote™ Liquid Epoxy Coating 323+ Spray Grade

ID Number(s):

80-6116-1770-7, 80-6116-1771-5, 80-6116-1772-3

7100168702, 7010319961, 7100142524

Recommended use
Coating, Liquid Epoxy Coating for Pipelines

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)

Emergency telephone number
1-800-364-3577 or (651) 737-6501 (24 hours)

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet (SDS), Article Information Sheet (AIS), or Article Information Letter (AIL) for each of these components is included. Please do not separate the component documents from this cover page. The document numbers for components of this product are:

34-5638-1, 34-5624-1

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Safety Data Sheet

Document Group:	34-5624-1	**Version Number:**	12.04
Issue Date:	04/30/21	**Supercedes Date:**	04/08/21

SECTION 1: Identification

1.1. Product identifier
3M™ Scotchkote™ Liquid Epoxy Coating 323+ Spray Grade, Part A

Product Identification Numbers
LH-A100-1964-0, LH-A100-2082-3, LH-A100-2082-4, 80-6116-1747-5, 80-6116-1749-1
7100136972, 7100136968

1.2. Recommended use and restrictions on use

Recommended use
Coating, Part A 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
Serious Eye Damage/Irritation: Category 2B.
Skin Sensitizer: Category 1.
Carcinogenicity: Category 2.

2.2. Label elements
Signal word
Warning

Symbols
Exclamation mark | Health Hazard |

Pictograms

Hazard Statements
Causes eye irritation.
May cause an allergic skin reaction.
Suspected of causing cancer.

Precautionary Statements

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.

Response:
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
IF exposed or concerned: Get medical advice/attention.

Storage:
Store locked up.

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

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	50 - 70 Trade Secret *
Nepheline Syenite	37244-96-5	10 - 20 Trade Secret *
Talc	14807-96-6	10 - 20 Trade Secret *
Cashew, nutshell liq., polymer with epichlorohydrin	68413-24-1	5 - 10 Trade Secret *
Titanium Dioxide	13463-67-7	1 - 5 Trade Secret *
Distillates, Petroleum, Solvent-Refined Light Paraffinic	64741-89-5	0.1 - 1 Trade Secret *
WHITE MINERAL OIL (PETROLEUM)	8042-47-5	0.1 - 1 Trade Secret *
Amide/Polymer Hybrid	None	0.1 - 0.5 Trade Secret *

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:
Remove person to fresh air. If you feel unwell, get medical attention.

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

Eye Contact:
Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, 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
No critical symptoms or effects. See Section 11.1, information on toxicological effects.

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
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Aldehydes	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion
Hydrogen Chloride	During Combustion
Irritant Vapors or Gases	During Combustion
Ammonia	During Combustion
Oxides of Nitrogen	During Combustion

5.3. Special protective 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
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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
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. 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. Avoid breathing 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 away from heat. 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
Titanium Dioxide	13463-67-7	ACGIH	TWA:10 mg/m3	A4: Not class. as human carcin
Titanium Dioxide	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	
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.	
Mineral oils (untreated and mildly treated)	64741-89-5	ACGIH	Limit value not established:	A2: Suspected human carcin., Cntrl all exposr-low as possib
MINERAL OILS, HIGHLY-REFINED OILS	64741-89-5	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
Paraffin oil	64741-89-5	OSHA	TWA(as mist):5 mg/m3	
MINERAL OILS, HIGHLY-REFINED OILS	8042-47-5	ACGIH	TWA(inhalable fraction):5 mg/m3	A4: Not class. as human carcin
Paraffin oil	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 (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

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

Thermal hazards
Wear heat insulating gloves when handling hot material to prevent thermal burns.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	
Physical state	Liquid
Color	White
Specific Physical Form:	Paste
Odor	Epoxy
Odor threshold	*No Data Available*
pH	[*Details:*No data available]*No Data Available*
Melting point	*No Data Available*
Boiling Point	> 200 ºF
Flash Point	Flash point > 93 °C (200 °F)
Evaporation rate	*No Data Available*
Flammability (solid, gas)	Not Applicable
Flammable Limits(LEL)	*No Data Available*

Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	0.01 mmHg [*Test Method:*Calculated] [*Details:*at 25C, Raoult's Law]
Vapor Density	*No Data Available*
Density	11.96 lb/gal
Specific Gravity	1.43 [*Ref Std:*WATER=1]
Solubility In Water	*No Data Available*
Solubility- non-water	Nil
Partition coefficient: n-octanol/ water	*No Data Available*
Autoignition temperature	*No Data Available*
Decomposition temperature	*No Data Available*
Viscosity	*No Data Available*
Volatile Organic Compounds	0 g/l [*Test Method:*calculated per EPA method 24] [*Details:*For Parts A and B as mixed.]

* The values noted with an asterisk (*) in the above table are representative values based on testing of raw materials and selected products. Additionally, a material's characteristics may change depending upon the process and conditions of use at a facility, including further changes in particle size, or mixture with other materials. In order to obtain specific data for the material, we recommend the user conduct characterization testing based on the use factors at the specific facility.

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

10.5. Incompatible materials
Strong acids
Reducing agents
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:
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:
Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:
Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

Additional Health Effects:

Carcinogenicity:
Contains a chemical or chemicals which can cause cancer.

Ingredient	CAS No.	Class Description	Regulation
Generic: CAS NO S14807966D	14807-96-6	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Generic: Mineral oils (untreated and mildly treated)	64741-89-5	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
Generic: Mineral oils (untreated and mildly treated)	64741-89-5	Known human carcinogen	National Toxicology Program Carcinogens
Titanium Dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

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	Ingestion		No data available; calculated ATE >5,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Rat	LD50 > 1,000 mg/kg
Talc	Dermal		LD50 estimated to be > 5,000 mg/kg
Talc	Ingestion		LD50 estimated to be > 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
Cashew, nutshell liq., polymer with epichlorohydrin	Dermal	Rabbit	LD50 > 2,000 mg/kg
Cashew, nutshell liq., polymer with epichlorohydrin	Ingestion	Rat	LD50 > 5,000 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
WHITE MINERAL OIL (PETROLEUM)	Dermal	Rabbit	LD50 > 2,000 mg/kg
WHITE MINERAL OIL (PETROLEUM)	Ingestion	Rat	LD50 > 5,000 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
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Mild irritant
Talc	Rabbit	No significant irritation
Nepheline Syenite	Professional judgement	No significant irritation
Cashew, nutshell liq., polymer with epichlorohydrin	In vitro data	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
WHITE MINERAL OIL (PETROLEUM)	Rabbit	No significant irritation
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Rabbit	Minimal irritation

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Moderate irritant
Talc	Rabbit	No significant irritation
Nepheline Syenite	Professional judgement	Mild irritant
Cashew, nutshell liq., polymer with epichlorohydrin	In vitro data	No significant irritation
Titanium Dioxide	Rabbit	No significant irritation
WHITE MINERAL OIL (PETROLEUM)	Rabbit	Mild irritant
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human and animal	Sensitizing
Cashew, nutshell liq., polymer with epichlorohydrin	Guinea pig	Sensitizing
Titanium Dioxide	Human and animal	Not classified
WHITE MINERAL OIL (PETROLEUM)	Guinea pig	Not classified
Amide/Polymer Hybrid	Mouse	Not classified
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Guinea pig	Not classified

Respiratory Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human	Not classified
Talc	Human	Not classified

Germ Cell Mutagenicity

Name	Route	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	In Vitro	Some positive data exist, but the data are not

		sufficient for classification
Talc	In Vitro	Not mutagenic
Talc	In vivo	Not mutagenic
Cashew, nutshell liq., polymer with epichlorohydrin	In Vitro	Not mutagenic
Titanium Dioxide	In Vitro	Not mutagenic
Titanium Dioxide	In vivo	Not mutagenic
WHITE MINERAL OIL (PETROLEUM)	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
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Talc	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
Titanium Dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium Dioxide	Inhalation	Rat	Carcinogenic
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
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not classified for female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not classified for male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Not classified for development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not classified for development	Rat	NOAEL 750 mg/kg/day	2 generation
Talc	Ingestion	Not classified for development	Rat	NOAEL 1,600 mg/kg	during organogenesis
Cashew, nutshell liq., polymer with epichlorohydrin	Ingestion	Not classified for female reproduction	Rat	NOAEL 1,000 mg/kg/day	premating into lactation
Cashew, nutshell liq., polymer with epichlorohydrin	Ingestion	Not classified for male reproduction	Rat	NOAEL 1,000 mg/kg/day	48 days
Cashew, nutshell liq., polymer with epichlorohydrin	Ingestion	Not classified for development	Rat	NOAEL 62.5 mg/kg/day	premating into lactation
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
For the component/components, either no data are currently available or the data are not sufficient for classification.

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	liver	Not classified	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	nervous system	Not classified	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	auditory system | heart | endocrine system | hematopoietic system | liver | eyes | kidney and/or bladder	Not classified	Rat	NOAEL 1,000 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 | respiratory system	Not classified	Rat	NOAEL 18 mg/m3	113 weeks
Cashew, nutshell liq., polymer with epichlorohydrin	Ingestion	gastrointestinal tract	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 62.5 mg/kg/day	90 days
Cashew, nutshell liq., polymer with epichlorohydrin	Ingestion	endocrine system | hematopoietic system | kidney and/or bladder | heart | skin | liver | immune system | muscles | nervous system | eyes | respiratory system | vascular system	Not classified	Rat	NOAEL 1,000 mg/kg/day	90 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
WHITE MINERAL OIL (PETROLEUM)	Ingestion	hematopoietic system	Not classified	Rat	NOAEL 1,381 mg/kg/day	90 days
WHITE MINERAL OIL (PETROLEUM)	Ingestion	liver | immune system	Not classified	Rat	NOAEL 1,336 mg/kg/day	90 days
Distillates, Petroleum, Solvent-Refined Light Paraffinic	Dermal	hematopoietic system | liver | 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. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. If no other disposal options are available, waste product that has been completely cured or polymerized may be placed in a landfill properly designed for industrial waste. 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): Not regulated

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
Carcinogenicity
Respiratory or Skin Sensitization
Serious eye damage or eye irritation

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: 2 **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: *2 **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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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-(TRIMETHOXYSILYL)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

Substance	Condition
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 ºC
Flash Point	> 93.3 ºC [*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 mm2/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 H2O & Exempt Solvents	*Not Applicable*

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
None known.

10.5. Incompatible materials
Strong oxidizing agents
Reducing agents

10.6. Hazardous decomposition products

Substance	Condition
Ammonia	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-(TRIMETHOXYSILYL)PROPYL]-	Dermal	Rabbit	LD50 > 2,000 mg/kg
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXYSILYL)PROPYL]-	Inhalation-Dust/Mist	Rat	LC50 >1.49, <2.44 mg/L mg/l

	(4 hours)		
1,2-ETHANEDIAMINE, N,N'-BIS[3-(TRIMETHOXYSILYL)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-(TRIMETHOXYSILYL)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-(TRIMETHOXYSILYL)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-(TRIMETHOXYSILYL)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-(TRIMETHOXYSILYL)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 avaliable	
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-(TRIMETHOXYSILYL)PROPYL]-	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'.-	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-(TRIMETHOXYSILYL)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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