Safety Data Sheet

Document Group:	16-0158-2	**Version Number:**	1.00
Issue Date:	27/08/2015	**Supercedes Date:**	Initial Issue

This Safety Data Sheet has been prepared in accordance with the Notification of Ministry of Industry, System of Hazardous Classification and Communication B.E.2555.

IDENTIFICATION

1.1. Product identifier
SCOTCHKOTE 323 Patch Compound, Brush Grade, and HSS 450 Spray System

Company: 3M Company
Address: 3M Center, St. Paul, MN 55144,USA

Product Identification Numbers

80-6300-0057-0	80-6300-0058-8	80-6300-0066-1	80-6300-0164-4	80-6300-0252-7
80-6300-0369-9	H0-0020-3011-4	H0-0020-3011-4	H0-0020-3018-9	HB-0040-6855-5

1.2. Recommended use and restrictions on use

Recommended use
Coating, SCOTCHKOTE 323 Epoxy Coating, 2 Part System

1.3. Supplier's details

ADDRESS: 3M Thailand Limited, Sukhumvit 21, Wattana, Bangkok 10110, Thailand
Telephone: 66(0)22608577
E Mail: 3MThailand@mmm.com
Website: http:www.3M.com/TH

1.4. Emergency telephone number
66-2-2608577

This product is a kit or a multipart product which consists of multiple, independently packaged components. An SDS for each of these components is included. Please do not separate the component SDSs from this cover page. The document numbers of the SDSs for components of this product are:

16-0684-7, 16-0702-7

TRANSPORT INFORMATION

This product is a kit or a multipart product which consists of multiple, independently packaged components. The transportation classifications of the individual components appear in Section 14 of the attached SDSs

UN No.: Not applicable

UN Proper Shipping Name: Not applicable
Transport hazard class (IMO): Not applicable
Transport hazard class (IATA): Not applicable
Packing Group: Not applicable
Environmental Hazards:
Not applicable

Special precautions for user
Not applicable.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Thailand SDSs are available at http:www.3M.com/TH

Safety Data Sheet

Document Group:	16-0684-7	**Version Number:**	1.00
Issue Date:	27/08/2015	**Supercedes Date:**	Initial Issue

This Safety Data Sheet has been prepared in accordance with the Notification of Ministry of Industry, System of Hazardous Classification and Communication B.E.2555.

SECTION 1: Identification

1.1. Product identifier
SCOTCHKOTE 323 Patch, Brush, and Spray Grades, Part A

Company: 3M Company
Address: 3M Center, St. Paul, MN 55144,USA

Product Identification Numbers

LH-A100-1623-7	LH-C100-0122-7	LH-C100-0122-8	LH-C100-0310-3	80-6116-1152-8
80-6300-0059-6	80-6300-0061-2	80-6300-0247-7		

1.2. Recommended use and restrictions on use

Recommended use
Coating, Part A of 2 Part Liquid Epoxy Coating System

1.3. Supplier's details
ADDRESS: 3M Thailand Limited, Sukhumvit 21, Wattana, Bangkok 10110, Thailand
Telephone: 66(0)22608577
E Mail: 3MThailand@mmm.com
Website: http:www.3M.com/TH

1.4. Emergency telephone number
66-2-2608577

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Serious Eye Damage/Irritation: Category 2B.
Skin Corrosion/Irritation: Category 3.
Skin Sensitizer: Category 1.
Carcinogenicity: Category 2.
Specific Target Organ Toxicity (repeated exposure): Category 1.
Acute Aquatic Toxicity: Category 2.
Chronic Aquatic Toxicity: Category 3.

2.2. Label elements

Signal word
Danger

Symbols
Exclamation mark | Health Hazard |

Pictograms

Hazard Statements

H320	Causes eye irritation.
H316	Causes mild skin irritation.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system |
H401	Toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements

General:

P102	Keep out of reach of children.
P101	If medical advice is needed, have product container or label at hand.

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280E	Wear protective gloves.
P281	Use personal protective equipment as required.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P332 + P313	If skin irritation occurs: Get medical advice/attention.

Storage:

P405	Store locked up.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards
None known

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	60 - 70
HYDROUS MAGNESIUM SILICATE	14807-96-6	20 - 30
TITANIUM DIOXIDE	13463-67-7	1 - 5
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	< 1

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

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
Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

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
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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Avoid breathing of vapors created during cure cycle. Avoid skin contact with hot material. For industrial or professional use only. Do not use in a confined area with minimal air exchange. 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. Use personal protective equipment (gloves, respirators, etc.) as required.

7.2. Conditions for safe storage including any incompatibilities
Keep container tightly closed. 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	CMRG	TWA(as respirable dust):5 mg/m3	
HYDROUS MAGNESIUM SILICATE	14807-96-6	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
HYDROUS MAGNESIUM SILICATE	14807-96-6	CMRG	TWA(as respirable dust):0.5 mg/m3	
HYDROUS MAGNESIUM SILICATE	14807-96-6	Thailand OELs	TWA(8 hours):20 millions of particles/cu. ft.	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	CMRG	TWA:50 ppm(245 mg/m3)	

ACGIH : American Conference of Governmental Industrial Hygienists

AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Thailand OELs : Thailand. Ministry of Interior, Re: Notification Health and Safety in the Work Environment on chemical B.E.2520
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Provide ventilated enclosure for heat 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. Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining. Provide local exhaust ventilation at transfer points.

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

Respiratory protection

Wear respiratory protection if ventilation is inadequate to prevent overexposure. 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:
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

Physical state	Liquid
Specific Physical Form:	Viscous
Appearance/Odor	Viscous, White
Odor threshold	*No Data Available*
pH	*Not Applicable*
Melting point/Freezing point	*No Data Available*
Boiling point/Initial boiling point/Boiling range	> 93.3 ºC
Flash Point	> 93.3 ºC [*Test Method:* Tagliabue Closed Cup]
Evaporation rate	< 1 [*Ref Std:* BUOAC=1]
Flammability (solid, gas)	Not Applicable

Flammable Limits(LEL)	*No Data Available*
Flammable Limits(UEL)	*No Data Available*
Vapor Pressure	1.3 Pa [*Test Method:* Calculated] [*Details:* at 25C, Raoult's Law]
Vapor Density	> 1 [*Ref Std:* AIR=1]
Density	1.425 g/cm3
Relative Density	1.425 [*Ref Std:* WATER=1]
Water solubility	*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	120 - 280 Pa-s [@ 22.2 ºC] [*Test Method:* Brookfield]
Volatile Organic Compounds	12 g/l [*Details:* For coating mixture of Parts A and B]

SECTION 10: Stability and reactivity

10.1. Reactivity
This material is considered to be non reactive under normal use conditions.

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
None known.

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.

Vapors released during curing may cause 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:

Prolonged or repeated exposure may cause target organ effects:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Carcinogenicity:
Contains a chemical or chemicals which can cause 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
HYDROUS MAGNESIUM SILICATE	Dermal		LD50 estimated to be > 5,000 mg/kg
HYDROUS MAGNESIUM SILICATE	Ingestion		LD50 estimated to be > 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
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Dermal	Rabbit	LD50 > 2,000 mg/kg
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation-Vapor (4 hours)	Rat	LC50 > 5.2 mg/l
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	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
HYDROUS MAGNESIUM SILICATE	Rabbit	No significant irritation
TITANIUM DIOXIDE	Rabbit	No significant irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Rabbit	Moderate irritant
HYDROUS MAGNESIUM SILICATE	Rabbit	No significant irritation
TITANIUM DIOXIDE	Rabbit	No significant irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human and animal	Sensitizing
TITANIUM DIOXIDE	Human and animal	Not sensitizing
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Guinea pig	Not sensitizing

Respiratory Sensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Human	Some positive data exist, but the data are not sufficient for classification
HYDROUS MAGNESIUM SILICATE	Human	Not sensitizing

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
HYDROUS MAGNESIUM SILICATE	In Vitro	Not mutagenic
HYDROUS MAGNESIUM SILICATE	In vivo	Not mutagenic
TITANIUM DIOXIDE	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
HYDROUS MAGNESIUM SILICATE	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
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	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 toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-ISOPROPYLIDENEDIPHENOL-	Ingestion	Not toxic to development	Rat	NOAEL 750	2 generation

EPICHLOROHYDRIN POLYMER				mg/kg/day	
HYDROUS MAGNESIUM SILICATE	Ingestion	Not toxic to development	Rat	NOAEL 1,600 mg/kg	during organogenesis
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to female reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to male reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 500 ppm	2 generation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	Dermal	nervous system	All data are negative	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	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days
HYDROUS MAGNESIUM SILICATE	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
HYDROUS MAGNESIUM SILICATE	Inhalation	pulmonary fibrosis | respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 18 mg/m3	113 weeks
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	All data are negative	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	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

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 2: Toxic to aquatic life.

Chronic aquatic hazard:
GHS Chronic 3: Harmful to aquatic life with long lasting effects

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6		Data not available or insufficient for classification			
HYDROUS MAGNESIUM SILICATE	14807-96-6		Data not available or insufficient for classification			
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	Water flea	Experimental	21 days	No obs Effect Conc	0.3 mg/l
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	Ricefish	Experimental	96 hours	Lethal Concentration 50%	1.41 mg/l
TITANIUM DIOXIDE	13463-67-7	Fish	Experimental	30 days	No obs Effect Conc	>100 mg/l
TITANIUM DIOXIDE	13463-67-7	Water flea	Experimental	30 days	No obs Effect Conc	3 mg/l
TITANIUM DIOXIDE	13463-67-7	Water flea	Experimental	48 hours	Effect Concentration 50%	>100 mg/l
TITANIUM DIOXIDE	13463-67-7	Sheepshead Minnow	Experimental	96 hours	Lethal Concentration 50%	>240 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	Laboratory Biodegradation	28 days	Biological Oxygen Demand	0 % weight	OECD 301C - MITI (I)
TITANIUM DIOXIDE	13463-67-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
HYDROUS MAGNESIUM SILICATE	14807-96-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	Laboratory Hydrolysis		Hydrolytic half-life	<2 days (t 1/2)	Other methods

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER	25068-38-6	Laboratory BCF - Other	28 days	Bioaccumulation Factor	<42	Other methods
TITANIUM DIOXIDE	13463-67-7	Experimental BCF-Carp	42 days	Bioaccumulation Factor	9.6	Other methods
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
HYDROUS MAGNESIUM SILICATE	14807-96-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available

SECTION 13: Disposal considerations

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate 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. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

UN No.: UN3082
UN Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4,4'-ISOPROPYLIDENEDIPHENOLEPICHLOROHYDRIN
POLYMER)
Transport hazard class (IMO): Miscellaneous dangerous goods
Transport hazard class (IATA): Miscellaneous dangerous goods
Packing Group: II
Environmental Hazards:
Not applicable

Special precautions for user
Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Thailand SDSs are available at http:www.3M.com/TH

Safety Data Sheet

Document Group:	16-0702-7	**Version Number:**	1.00
Issue Date:	27/08/2015	**Supercedes Date:**	Initial Issue

This Safety Data Sheet has been prepared in accordance with the Notification of Ministry of Industry, System of Hazardous Classification and Communication B.E.2555.

SECTION 1: Identification

1.1. Product identifier
SCOTCHKOTE 323 Patch, Brush, and Spray Grades, Part B

Company: 3M Company
Address: 3M Center, St. Paul, MN 55144,USA

Product Identification Numbers

LH-A100-1623-8	LH-C100-0103-5	LH-C100-0122-9	LH-C100-0123-0	LH-C100-0310-4
41-4800-0166-2	80-6116-1153-6	80-6300-0060-4	80-6300-0062-0	80-6300-0248-5

1.2. Recommended use and restrictions on use

Recommended use
Coating, Part B of 2 Part Liquid Epoxy Coating System

1.3. Supplier's details
ADDRESS: 3M Thailand Limited, Sukhumvit 21, Wattana, Bangkok 10110, Thailand
Telephone: 66(0)22608577
E Mail: 3MThailand@mmm.com
Website: http:www.3M.com/TH

1.4. Emergency telephone number
66-2-2608577

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture
Acute Toxicity (oral): Category 5.
Acute Toxicity (dermal): Category 5.
Acute Toxicity (inhalation): Category 5.
Serious Eye Damage/Irritation: Category 1.
Skin Corrosion/Irritation: Category 1.
Skin Sensitizer: Category 1.
Reproductive Toxicity: Category 2.
Specific Target Organ Toxicity (respiratory irritation): Category 3.
Specific Target Organ Toxicity (repeated exposure): Category 1.

Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 1.

2.2. Label elements
Signal word
Danger

Symbols
Corrosion | Exclamation mark | Health Hazard | Environment |

Pictograms

Hazard Statements

H303	May be harmful if swallowed.
H313	May be harmful in contact with skin.
H318	Causes serious eye damage.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H333	May be harmful if inhaled.
H335	May cause respiratory irritation.
H361	Suspected of damaging fertility or the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure: respiratory system |
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statements
General:

P102	Keep out of reach of children.
P101	If medical advice is needed, have product container or label at hand.

Prevention:

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P280D	Wear protective gloves, protective clothing, and eye/face protection.
P280A	Wear eye/face protection.
P280E	Wear protective gloves.
P281	Use personal protective equipment as required.
P273	Avoid release to the environment.

Response:

P304 + P312	IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.

Storage:

P405	Store locked up.

Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

2.3. Other hazards

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

May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

This material is a mixture.

Ingredient	C.A.S. No.	% by Wt
P-TERT-BUTYLPHENOL	98-54-4	20 - 30
HYDROUS MAGNESIUM SILICATE	14807-96-6	20 - 30
PHENOL FORMALDEHYDE AMINE POLYMER	104242-08-2	5 - 10
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	5 - 15
4-NONYL PHENOL, branched	84852-15-3	5 - 15
TRIMETHYLHEXAMETHYLENEDIAMINE	25620-58-0	5 - 15
C.I. PIGMENT GREEN 7	1328-53-6	1 - 3
POLYAMIDE	Unknown	1 - 3
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	< 1
Phenol, 2-isononyl-	27938-31-4	< 0.5

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

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

Skin Contact:

Immediately flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

Eye Contact:

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

If Swallowed:

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

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

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
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.

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
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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
For industrial or professional use only. 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
COPPER COMPOUNDS	1328-53-6	ACGIH	TWA(as Cu dust or mist):1 mg/m3;TWA(as Cu, fume):0.2 mg/m3	
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	ACGIH	CEIL:0.1 mg/m3	Skin Notation
HYDROUS MAGNESIUM SILICATE	14807-96-6	ACGIH	TWA(respirable fraction):2 mg/m3	A4: Not class. as human carcin
HYDROUS MAGNESIUM SILICATE	14807-96-6	CMRG	TWA(as respirable dust):0.5 mg/m3	
HYDROUS MAGNESIUM SILICATE	14807-96-6	Thailand OELs	TWA(8 hours):20 millions of particles/cu. ft.	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	CMRG	TWA:50 ppm(245 mg/m3)	

ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
CMRG : Chemical Manufacturer's Recommended Guidelines
Thailand OELs : Thailand. Ministry of Interior, Re: Notification Health and Safety in the Work Environment on chemical B.E.2520
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls
Provide ventilated enclosure for heat 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.
Gloves made from the following material(s) are recommended: Butyl Rubber

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 – Butyl 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

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

Physical state	Liquid
Appearance/Odor	Viscous, Green, Strong Amine Odor
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 (solid, gas)	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]
Vapor Density	> 1 [*Ref Std:* AIR=1]
Density	1.2 g/ml
Relative Density	1.2 [*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*
Viscosity	13 - 20 Pa-s [@ 22.2 ºC] [*Test Method:* Brookfield]
Volatile Organic Compounds	12 g/l [*Details:* For coating mixture of Parts A and B]
Percent volatile	1.28 % volume
VOC Less H2O & Exempt Solvents	*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:
May be harmful if inhaled. Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Vapors released during curing may cause irritation of the respiratory system. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

May cause additional health effects (see below).

Skin Contact:
May be harmful in contact with skin.
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.

Vapors released during curing may cause eye irritation. Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Ingestion:
May be harmful if swallowed.
Gastrointestinal Corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain; nausea; vomiting; and

diarrhea; blood in the feces and/or vomitus may also be seen.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:
Dermal Effects: Signs/symptoms may include changes in skin pigmentation and/or coloration.

Prolonged or repeated exposure may cause target organ effects:
Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

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

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	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE 5 - 12.5 mg/l
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg
P-TERT-BUTYLPHENOL	Dermal	Rabbit	LD50 2,318 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
HYDROUS MAGNESIUM SILICATE	Dermal		LD50 estimated to be > 5,000 mg/kg
HYDROUS MAGNESIUM SILICATE	Ingestion		LD50 estimated to be > 5,000 mg/kg
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Dermal	Rabbit	LD50 > 2,000 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
4-NONYL PHENOL, branched	Dermal	Rabbit	LD50 > 2,000 mg/kg
4-NONYL PHENOL, branched	Ingestion	Rat	LD50 1,531 mg/kg
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	Rat	LD50 910 mg/kg
C.I. PIGMENT GREEN 7	Ingestion	Rat	LD50 > 5,000 mg/kg
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Dermal	Rabbit	LD50 > 2,000 mg/kg
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation-Vapor (4 hours)	Rat	LC50 > 5.2 mg/l
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	Rat	LD50 > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
P-TERT-BUTYLPHENOL	Rabbit	Irritant
HYDROUS MAGNESIUM SILICATE	Rabbit	No significant irritation

M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Rat	Corrosive
4-NONYL PHENOL, branched	Rabbit	Corrosive
TRIMETHYLHEXAMETHYLENEDIAMINE	Not available	Corrosive
C.I. PIGMENT GREEN 7	Rabbit	No significant irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Irritant

Serious Eye Damage/Irritation

Name	Species	Value
P-TERT-BUTYLPHENOL	Rabbit	Corrosive
HYDROUS MAGNESIUM SILICATE	Rabbit	No significant irritation
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Rabbit	Corrosive
4-NONYL PHENOL, branched	Rabbit	Corrosive
TRIMETHYLHEXAMETHYLENEDIAMINE	Rabbit	Corrosive
C.I. PIGMENT GREEN 7	Rabbit	No significant irritation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Rabbit	Mild irritant

Skin Sensitization

Name	Species	Value
P-TERT-BUTYLPHENOL	Human and animal	Some positive data exist, but the data are not sufficient for classification
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Guinea pig	Sensitizing
4-NONYL PHENOL, branched	Guinea pig	Not sensitizing
TRIMETHYLHEXAMETHYLENEDIAMINE	Guinea pig	Sensitizing
C.I. PIGMENT GREEN 7	Guinea pig	Not sensitizing
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Guinea pig	Not sensitizing

Respiratory Sensitization

Name	Species	Value
HYDROUS MAGNESIUM SILICATE	Human	Not sensitizing

Germ Cell Mutagenicity

Name	Route	Value
P-TERT-BUTYLPHENOL	In Vitro	Not mutagenic
HYDROUS MAGNESIUM SILICATE	In Vitro	Not mutagenic
HYDROUS MAGNESIUM SILICATE	In vivo	Not mutagenic
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	In Vitro	Not mutagenic
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	In vivo	Not mutagenic
4-NONYL PHENOL, branched	In Vitro	Not mutagenic
4-NONYL PHENOL, branched	In vivo	Not mutagenic
TRIMETHYLHEXAMETHYLENEDIAMINE	In vivo	Not mutagenic
C.I. PIGMENT GREEN 7	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
P-TERT-BUTYLPHENOL	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
HYDROUS MAGNESIUM SILICATE	Inhalation	Rat	Some positive data exist, but the data are not sufficient for classification
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	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
P-TERT-BUTYLPHENOL	Ingestion	Not toxic to male reproduction	Rat	NOAEL 600 mg/kg/day	2 generation
P-TERT-BUTYLPHENOL	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 600 mg/kg/day	2 generation
P-TERT-BUTYLPHENOL	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 70 mg/kg/day	2 generation
HYDROUS MAGNESIUM SILICATE	Ingestion	Not toxic to development	Rat	NOAEL 1,600 mg/kg	during organogenesis
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 450 mg/kg/day	1 generation
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 450 mg/kg	1 generation
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Ingestion	Not toxic to development	Rat	NOAEL 450 mg/kg/day	1 generation
4-NONYL PHENOL, branched	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	28 days
4-NONYL PHENOL, branched	Ingestion	Toxic to female reproduction	official classification	NOAEL Not available	
4-NONYL PHENOL, branched	Ingestion	Toxic to development	official classification	NOAEL Not available	
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 120 mg/kg/day	2 generation
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	Not toxic to development	Rat	NOAEL 120 mg/kg/day	2 generation
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 10 mg/kg/day	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to female reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Not toxic to male reproduction	Rat	NOAEL 1,500 ppm	2 generation
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 500 ppm	2 generation

Lactation

Name	Route	Species	Value
4-NONYL PHENOL, branched	Ingestion	Rat	Does not cause effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P-TERT-BUTYLPHENOL	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	LOAEL 5.6 mg/l	4 hours
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Not available	NOAEL Not avaliable	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	

LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Professional judgement	NOAEL Not available	
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	Ingestion	central nervous system depression	May cause drowsiness or dizziness	Professional judgement	NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
P-TERT-BUTYLPHENOL	Ingestion	endocrine system | liver | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 600 mg/kg/day	2 generation
P-TERT-BUTYLPHENOL	Ingestion	blood	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 200 mg/kg	6 weeks
HYDROUS MAGNESIUM SILICATE	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
HYDROUS MAGNESIUM SILICATE	Inhalation	pulmonary fibrosis | respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 18 mg/m3	113 weeks
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	Ingestion	endocrine system | blood | bone marrow	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 600 mg/kg/day	28 days
4-NONYL PHENOL, branched	Ingestion	endocrine system | hematopoietic system | liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	28 days
4-NONYL PHENOL, branched	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 150 mg/kg/day	90 days
4-NONYL PHENOL, branched	Ingestion	heart | bone, teeth, nails, and/or hair | immune system | muscles | nervous system | respiratory system	All data are negative	Rat	NOAEL 150 mg/kg/day	90 days
TRIMETHYLHEXAMETHYLENEDIAMINE	Ingestion	hematopoietic system | liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 180 mg/kg/day	13 weeks

Aspiration Hazard

Name	Value
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	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

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 1: Very toxic to aquatic life.

Chronic aquatic hazard:

GHS Chronic 1: Very toxic to aquatic life with long lasting effects.

No product test data available

Material	Cas #	Organism	Type	Exposure	Test Endpoint	Test Result
POLYAMIDE	Unknown		Data not available or insufficient for classification			
C.I. PIGMENT GREEN 7	1328-53-6		Data not available or insufficient for classification			
PHENOL FORMALDEHYDE AMINE POLYMER	104242-08-2		Data not available or insufficient for classification			
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6		Data not available or insufficient for classification			
Phenol, 2-isononyl-	27938-31-4		Data not available or insufficient for classification			
HYDROUS MAGNESIUM SILICATE	14807-96-6		Data not available or insufficient for classification			
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	Green Algae	Experimental	72 hours	No obs Effect Conc	9.8 mg/l
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	Ricefish	Experimental	96 hours	Lethal Concentration 50%	87.6 mg/l
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	Green Algae	Experimental	72 hours	Effect Concentration 50%	28 mg/l
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	Water flea	Experimental	48 hours	Effect Concentration 50%	15.2 mg/l
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	Water flea	Experimental	21 days	No obs Effect Conc	4.7 mg/l
4-NONYL PHENOL, branched	84852-15-3	Fathead Minnow	Experimental	96 hours	Lethal Concentration 50%	0.128 mg/l
4-NONYL	84852-15-3	Fathead	Experimental	33 days	No obs Effect	0.0074 mg/l

PHENOL, branched		Minnow			Conc	
4-NONYL PHENOL, branched	84852-15-3	Crustecea other	Experimental	28 days	No obs Effect Conc	0.0039 mg/l
4-NONYL PHENOL, branched	84852-15-3	Diatom	Experimental	96 hours	Effect Concentration 50%	0.027 mg/l
4-NONYL PHENOL, branched	84852-15-3	Crustecea other	Experimental	96 hours	Effect Concentration 50%	0.043 mg/l
TRIMETHYL HEXAMETHY LENEDIAMIN E	25620-58-0	Water flea	Experimental	24 hours	Effect Concentration 50%	31.5 mg/l
TRIMETHYL HEXAMETHY LENEDIAMIN E	25620-58-0	Golden Orfe	Experimental	48 hours	Lethal Concentration 50%	172 mg/l
TRIMETHYL HEXAMETHY LENEDIAMIN E	25620-58-0	Green algae	Experimental	72 hours	Effect Concentration 50%	29.5 mg/l
P-TERT-BUTYLPHEN OL	98-54-4	Fathead Minnow	Laboratory	96 hours	Lethal Concentration 50%	5.14 mg/l
P-TERT-BUTYLPHEN OL	98-54-4	Green algae	Laboratory	72 hours	Effect Concentration 50%	22.7 mg/l
P-TERT-BUTYLPHEN OL	98-54-4	Water flea	Laboratory	48 hours	Effect Concentration 50%	3.4 mg/l
P-TERT-BUTYLPHEN OL	98-54-4	Water flea	Laboratory	21 days	No obs Effect Conc	0.73 mg/l

12.2. Persistence and degradability

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
C.I. PIGMENT GREEN 7	1328-53-6	Analogous Compound Biodegradation	28 days	Biological Oxygen Demand	<1 % weight	Other methods
M-XYLENE-.ALPHA.ALP HA.'-DIAMINE	1477-55-0	Experimental Biodegradation	28 days	Carbon dioxide evolution	49 % weight	OECD 301B - Mod. Sturm or CO2
4-NONYL PHENOL, branched	84852-15-3	Experimental Biodegradation	28 days	Carbon dioxide evolution	53 % weight	OECD 301B - Mod. Sturm or CO2
P-TERT-BUTYLPHEN OL	98-54-4	Experimental Biodegradation	28 days	Dissolv. Organic Carbon Deplet	98 % weight	Other methods
TRIMETHYL HEXAMETHY LENEDIAMIN	25620-58-0	Experimental Biodegradation	21 days	Dissolv. Organic Carbon Deplet	37 % weight	OECD 301E - Modified OECD Scre

E						
LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Phenol, 2-isononyl-	27938-31-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
POLYAMIDE	Unknown	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
PHENOL FORMALDEHYDE AMINE POLYMER	104242-08-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4-NONYL PHENOL, branched	84852-15-3	Estimated Photolysis		Photolytic half-life (in air)	7.5 hours (t 1/2)	Other methods
HYDROUS MAGNESIUM SILICATE	14807-96-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.3. Bioaccumulative potential

Material	CAS No.	Test Type	Duration	Study Type	Test Result	Protocol
4-NONYL PHENOL, branched	84852-15-3	Experimental BCF - Other	16 days	Bioaccumulation Factor	2168	Other methods
C.I. PIGMENT GREEN 7	1328-53-6	Experimental BCF - Rainbow Tr	42 days	Bioaccumulation Factor	<74	OECD 305E-Bioaccum Fl-thru fis
M-XYLENE-.ALPHA.ALPHA.'-DIAMINE	1477-55-0	Experimental BCF-Carp	42 days	Bioaccumulation Factor	<2.7	OECD 305E-Bioaccum Fl-thru fis
P-TERT-BUTYLPHENOL	98-54-4	Experimental Bioaccumulation		Log of Octanol/H2O part. coeff	3.31	Other methods
TRIMETHYL HEXAMETHYLENEDIAMINE	25620-58-0	Experimental Bioconcentration		Log of Octanol/H2O part. coeff	0.7	Other methods
PHENOL FORMALDEHYDE AMINE POLYMER	104242-08-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Phenol, 2-isononyl-	27938-31-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

LIGHT AROMATIC SOLVENT NAPHTHA (PETROLEUM)	64742-95-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
POLYAMIDE	Unknown	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
HYDROUS MAGNESIUM SILICATE	14807-96-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil
Please contact manufacturer for more details

12.5 Other adverse effects
No information available

SECTION 13: Disposal considerations

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

Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

SECTION 14: Transport Information

UN No.: UN3267
UN Proper Shipping Name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. P-tert-butylphenol and m-xylene-alpha,alpha-diamine
Transport hazard class (IMO): Corrosives
Transport hazard class (IATA): Corrosives
Packing Group: II
Environmental Hazards:
Not applicable

Special precautions for user
Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global inventory status
Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Thailand SDSs are available at http:www.3M.com/TH