



Safety Data Sheet

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Document Group:	28-0770-9	Version Number:	6.01
Issue Date:	06/16/15	Supersedes Date:	01/30/15

SECTION 1: Identification

1.1. Product identifier

3M Scotchkote Epoxy Ceramic HD Surfacer HG 519 (Part B)

Product Identification Numbers

GR-2001-0823-5, GR-2001-0828-4, GR-2001-0937-3, GR-2001-1750-9, GR-2001-1752-5, GR-2001-2050-3, GR-2001-4342-2, GR-2001-4354-7

1.2. Recommended use and restrictions on use

Recommended use

Coating, Heavy duty ceramic coating

1.3. Supplier's details

MANUFACTURER:	3M
DIVISION:	3M United Kingdom 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 1.

Skin Corrosion/Irritation: Category 1B.

Respiratory Sensitizer: Category 1.

Skin Sensitizer: Category 1A.

Reproductive Toxicity: Category 2.

2.2. Label elements

Signal word

Danger

Symbols

Corrosion | Health Hazard |

Pictograms



Hazard Statements

Causes severe skin burns and eye damage.
 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 May cause an allergic skin reaction.
 Suspected of damaging fertility or the unborn child.

Precautionary Statements

Prevention:

Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe dust/fume/gas/mist/vapors/spray.
 In case of inadequate ventilation wear respiratory protection.
 Wear protective gloves, protective clothing, and eye/face protection.
 Wash thoroughly after handling.
 Contaminated work clothing must not be allowed out of the workplace.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 Immediately call a POISON CENTER or doctor/physician.
 If skin irritation or rash occurs: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage:

Store locked up.

Disposal:

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

2.3. Hazards not otherwise classified

May cause chemical gastrointestinal burns.

13% of the mixture consists of ingredients of unknown acute dermal toxicity.

SECTION 3: Composition/information on ingredients

Ingredient	C.A.S. No.	% by Wt
QUARTZ SILICA	14808-60-7	30 - 40 Trade Secret *
ISOPHORONE DIAMINE	2855-13-2	10 - 20 Trade Secret *
BENZYL ALCOHOL	100-51-6	10 - 20 Trade Secret *
DIETHYLENTRIAMINE	111-40-0	5 - 10 Trade Secret *
N-AMINOETHYLPIPERAZINE	140-31-8	1 - 5 Trade Secret *
P-TERT-BUTYLPHENOL	98-54-4	1 - 5 Trade Secret *

NON-HAZARDOUS MATERIAL	Mixture	1 - 5 Trade Secret *
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	1 - 5 Trade Secret *
TITANIUM DIOXIDE	13463-67-7	0.1 - 1 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 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

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide
Oxides of Nitrogen

Condition

During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

No special protective actions for fire-fighters are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. 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.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. 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

Keep container tightly closed to prevent contamination with water or air. If contamination is suspected, do not reseal container. Store away from acids. Store away from strong bases. Store away from oxidizing agents. Store away from amines.

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
BENZYL ALCOHOL	100-51-6	AIHA	TWA:44.2 mg/m3(10 ppm)	
DIETHYLENETRIAMINE	111-40-0	ACGIH	TWA:1 ppm	Skin Notation
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	
TITANIUM DIOXIDE	13463-67-7	OSHA	TWA(as total dust):15 mg/m3	
QUARTZ SILICA	14808-60-7	ACGIH	TWA(respirable fraction):0.025 mg/m3	A2: Suspected human carcin.
QUARTZ SILICA	14808-60-7	OSHA	TWA concentration(as total dust):0.3 mg/m3;TWA concentration(respirable):0.1 mg/m3(2.4 millions of particles/cu. ft.)	
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	CMRG	TWA:5 mg/m3	
NON-HAZARDOUS MATERIAL	Mixture	CMRG	CEIL: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

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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

General Physical Form:	Solid
Specific Physical Form:	Paste
Odor, Color, Grade:	Ammoniacal odor; White color
Odor threshold	<i>No Data Available</i>
pH	> 8 [<i>Details: Alkaline</i>]
Melting point	<i>Not Applicable</i>
Boiling Point	≥200 °C
Flash Point	100 °C [<i>Test Method: Closed Cup</i>]
Evaporation rate	<i>No Data Available</i>
Flammability (solid, gas)	Not Classified
Flammable Limits(LEL)	<i>No Data Available</i>
Flammable Limits(UEL)	<i>No Data Available</i>
Vapor Pressure	≤10 mmHg [<i>@ 21 °C</i>]
Vapor Density	<i>No Data Available</i>
Density	1.380 g/ml
Specific Gravity	1.380 [<i>Ref Std: WATER=1</i>]

Solubility In Water	0 %
Solubility- non-water	No Data Available
Partition coefficient: n-octanol/ water	No Data Available
Autoignition temperature	>=400 °C
Decomposition temperature	No Data Available
Viscosity	No Data Available
Volatile Organic Compounds	0 g/l [Test Method: Estimated] [Details: EU Definition (Part A and B mix)]
Percent volatile	0 % weight

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

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

10.5. Incompatible materials

Amines

Strong acids

Strong oxidizing agents

Strong bases

Reaction with water, alcohols, and amines is not hazardous if container can vent to the atmosphere to prevent pressure buildup.

10.6. Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
None known.	

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Allergic Respiratory Reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest.

Skin Contact:

Corrosive (Skin Burns): Signs/symptoms may include localized redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Photosensitization: Signs/symptoms may include a sunburn-like reaction such as blistering, redness, swelling, and itching from minor exposure to sunlight.

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:

Single exposure may cause target organ effects:

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

Reproductive/Developmental Toxicity:

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

Carcinogenicity:

<u>Ingredient</u>	<u>CAS No.</u>	<u>Class Description</u>	<u>Regulation</u>
SILICA, CRYSTAL AIRRESP	14808-60-7	Known human carcinogen	National Toxicology Program Carcinogens
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
TITANIUM DIOXIDE	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Additional Information:

The reaction of secondary and tertiary amines with nitrites in the acidic medium of the stomach may form nitrosamines. Some nitrosamines are considered to be carcinogenic.

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

<u>Name</u>	<u>Route</u>	<u>Species</u>	<u>Value</u>
Overall product	Dermal		No data available; calculated ATE > 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE 2,000 - 5,000 mg/kg

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QUARTZ SILICA	Dermal		LD50 estimated to be > 5,000 mg/kg
QUARTZ SILICA	Ingestion		LD50 estimated to be > 5,000 mg/kg
BENZYL ALCOHOL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 8.8 mg/l
BENZYL ALCOHOL	Ingestion	Rat	LD50 1,230 mg/kg
ISOPHORONE DIAMINE	Dermal	Rat	LD50 > 2,000 mg/kg
ISOPHORONE DIAMINE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 estimated to be 1 - 5 mg/l
ISOPHORONE DIAMINE	Ingestion	Rat	LD50 1,030 mg/kg
DIETHYLENETRIAMINE	Dermal	Rabbit	LD50 1,045 mg/kg
DIETHYLENETRIAMINE	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.07 mg/l
DIETHYLENETRIAMINE	Ingestion	Rat	LD50 819 mg/kg
NON-HAZARDOUS MATERIAL	Dermal	Rabbit	LD50 > 5,000 mg/kg
NON-HAZARDOUS MATERIAL	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
NON-HAZARDOUS MATERIAL	Ingestion	Rat	LD50 > 5,110 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
4,4'-ISOPROPYLIDENEDIPHENOL	Dermal	Rabbit	LD50 > 2,000 mg/kg
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Rat	LD50 3,200 mg/kg
N-AMINOETHYLPIPERAZINE	Dermal	Rabbit	LD50 865 mg/kg
N-AMINOETHYLPIPERAZINE	Ingestion	Rat	LD50 1,470 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

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
QUARTZ SILICA	Professional judgement	No significant irritation
BENZYL ALCOHOL	Multiple animal species	Mild irritant
ISOPHORONE DIAMINE	official classification	Corrosive
DIETHYLENETRIAMINE	Rabbit	Corrosive
NON-HAZARDOUS MATERIAL	Rabbit	No significant irritation
P-TERT-BUTYLPHENOL	Rabbit	Irritant
4,4'-ISOPROPYLIDENEDIPHENOL	Rabbit	No significant irritation
N-AMINOETHYLPIPERAZINE	Rabbit	Corrosive
TITANIUM DIOXIDE	Rabbit	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
BENZYL ALCOHOL	Rabbit	Severe irritant
ISOPHORONE DIAMINE	Rabbit	Corrosive
DIETHYLENETRIAMINE	Rabbit	Corrosive
NON-HAZARDOUS MATERIAL	Rabbit	No significant irritation
P-TERT-BUTYLPHENOL	Rabbit	Corrosive
4,4'-ISOPROPYLIDENEDIPHENOL	Rabbit	Corrosive

N-AMINOETHYLPIPERAZINE	Rabbit	Corrosive
TITANIUM DIOXIDE	Rabbit	No significant irritation

Skin Sensitization

Name	Species	Value
BENZYL ALCOHOL	Human and animal	Some positive data exist, but the data are not sufficient for classification
ISOPHORONE DIAMINE	Guinea pig	Sensitizing
DIETHYLENETRIAMINE	Guinea pig	Sensitizing
NON-HAZARDOUS MATERIAL	Human and animal	Not sensitizing
P-TERT-BUTYLPHENOL	Human and animal	Some positive data exist, but the data are not sufficient for classification
4,4'-ISOPROPYLIDENEDIPHENOL	official classification	Sensitizing
N-AMINOETHYLPIPERAZINE	Guinea pig	Sensitizing
TITANIUM DIOXIDE	Human and animal	Not sensitizing

Photosensitization

Name	Species	Value
4,4'-ISOPROPYLIDENEDIPHENOL	Human and animal	Sensitizing

Respiratory Sensitization

Name	Species	Value
DIETHYLENETRIAMINE	Human	Sensitizing

Germ Cell Mutagenicity

Name	Route	Value
QUARTZ SILICA	In Vitro	Some positive data exist, but the data are not sufficient for classification
QUARTZ SILICA	In vivo	Some positive data exist, but the data are not sufficient for classification
BENZYL ALCOHOL	In vivo	Not mutagenic
BENZYL ALCOHOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
ISOPHORONE DIAMINE	In Vitro	Not mutagenic
ISOPHORONE DIAMINE	In vivo	Not mutagenic
DIETHYLENETRIAMINE	In Vitro	Not mutagenic
NON-HAZARDOUS MATERIAL	In Vitro	Not mutagenic
P-TERT-BUTYLPHENOL	In Vitro	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL	In vivo	Not mutagenic
4,4'-ISOPROPYLIDENEDIPHENOL	In Vitro	Some positive data exist, but the data are not sufficient for classification
N-AMINOETHYLPIPERAZINE	In vivo	Not mutagenic
N-AMINOETHYLPIPERAZINE	In Vitro	Some positive data exist, but the data are not sufficient for classification
TITANIUM DIOXIDE	In Vitro	Not mutagenic
TITANIUM DIOXIDE	In vivo	Not mutagenic

Carcinogenicity

Name	Route	Species	Value
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QUARTZ SILICA	Inhalation	Human and animal	Carcinogenic
BENZYL ALCOHOL	Ingestion	Multiple animal species	Not carcinogenic
DIETHYLENETRIAMINE	Dermal	Multiple animal species	Not carcinogenic
NON-HAZARDOUS MATERIAL	Not Specified	Mouse	Some positive data exist, but the data are not sufficient for classification
P-TERT-BUTYLPHENOL	Ingestion	Multiple animal species	Some positive data exist, but the data are not sufficient for classification
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Multiple animal species	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

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test Result	Exposure Duration
BENZYL ALCOHOL	Ingestion	Not toxic to development	Mouse	NOAEL 550 mg/kg/day	during organogenesis
ISOPHORONE DIAMINE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 160 mg/kg/day	90 days
ISOPHORONE DIAMINE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 160 mg/kg/day	90 days
ISOPHORONE DIAMINE	Ingestion	Not toxic to development	Rat	NOAEL 250 mg/kg/day	during gestation
DIETHYLENETRIAMINE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 300 mg/kg/day	28 days
DIETHYLENETRIAMINE	Ingestion	Not toxic to development	Rat	NOAEL 300 mg/kg/day	prematuring & during gestation
DIETHYLENETRIAMINE	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 30 mg/kg/day	prematuring & during gestation
NON-HAZARDOUS MATERIAL	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
NON-HAZARDOUS MATERIAL	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
NON-HAZARDOUS MATERIAL	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
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
4,4'-ISOPROPYLIDENEDIPHENOL	Inhalation	Not toxic to female reproduction	Rat	NOAEL 0.15 mg/l	13 weeks
4,4'-ISOPROPYLIDENEDIPHENOL	Inhalation	Not toxic to male reproduction	Rat	NOAEL 0.15 mg/l	13 weeks
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Some positive female reproductive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 50 mg/kg/day	
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Some positive male reproductive data	Multiple	NOAEL 50	

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		exist, but the data are not sufficient for classification	animal species	mg/kg/day	
4,4'-ISOPROPYLIDENEDIPHENOL	Ingestion	Toxic to development	Multiple animal species	NOAEL 50 mg/kg/day	
N-AMINOETHYLPIPERAZINE	Ingestion	Not toxic to female reproduction	Rat	NOAEL 598 mg/kg/day	prematuring & during gestation
N-AMINOETHYLPIPERAZINE	Ingestion	Not toxic to male reproduction	Rat	NOAEL 409 mg/kg/day	32 days
N-AMINOETHYLPIPERAZINE	Ingestion	Not toxic to development	Rat	NOAEL 899 mg/kg/day	prematuring & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
BENZYL ALCOHOL	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
BENZYL ALCOHOL	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
BENZYL ALCOHOL	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
ISOPHORONE DIAMINE	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	LOAEL 0.002 mg/l	2 weeks
DIETHYLENETRIAMINE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
P-TERT-BUTYLPHENOL	Inhalation	respiratory irritation	May cause respiratory irritation	Rat	LOAEL 5.6 mg/l	4 hours
4,4'-ISOPROPYLIDENEDIPHENOL	Inhalation	respiratory irritation	May cause respiratory irritation	Multiple animal species	LOAEL 0.152 mg/l	15 minutes
N-AMINOETHYLPIPERAZINE	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test Result	Exposure Duration
QUARTZ SILICA	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
BENZYL ALCOHOL	Ingestion	endocrine system muscles kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	13 weeks
BENZYL ALCOHOL	Ingestion	nervous system respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 645 mg/kg/day	8 days
ISOPHORONE DIAMINE	Ingestion	hematopoietic system liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 160 mg/kg/day	13 weeks
DIETHYLENETRIAMINE	Ingestion	endocrine system liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,210 mg/kg/day	90 days
NON-HAZARDOUS MATERIAL	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
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

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4,4'-ISOPROPYLIDENEDIPH ENOL	Inhalation	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.15 mg/l	13 weeks
4,4'-ISOPROPYLIDENEDIPH ENOL	Inhalation	hematopoietic system	All data are negative	Rat	NOAEL 0.15 mg/l	13 weeks
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 50 mg/kg/day	3 generation
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 370 mg/kg/day	13 weeks
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	endocrine system hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 500 mg/kg/day	3 generation
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 185 mg/kg/day	90 days
4,4'-ISOPROPYLIDENEDIPH ENOL	Ingestion	heart bone, teeth, nails, and/or hair	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 2,400 mg/kg/day	13 weeks
N-AMINOETHYLPIPERAZINE	Ingestion	heart endocrine system hematopoietic system liver nervous system kidney and/or bladder	All data are negative	Rat	NOAEL 598 mg/kg/day	28 days
TITANIUM DIOXIDE	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 0.010 mg/l	2 years
TITANIUM DIOXIDE	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

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 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.

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.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
4,4'-ISOPROPYLLIDENEDIPHENOL	80-05-7	1 - 5

15.2. State Regulations

Contact 3M for more information.

15.3. Chemical Inventories

The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information.

The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. 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.

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: 1 Special Hazards: None

Corrosive: Yes

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:** 1 **Personal Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS® III) 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® III ratings are to be used with a fully implemented HMIS® III program. HMIS® is a registered mark of the American Coatings Association (ACA).

Document Group:	28-0770-9	Version Number:	6.01
Issue Date:	06/16/15	Supersedes Date:	01/30/15

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