



Safety Data Sheet

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Transportation version number:	5.00 (26/03/2012)		

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Kit)

Product identification numbers

GR-2001-2029-7 GR-2001-2031-3

1.2. Relevant identified uses of the substance or mixture and uses advised against

Coating.

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com

Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet for each of these components is included. Please do not separate the component Safety Data Sheets from this cover page. The document numbers of the MSDSs for components of this product are:

28-0523-2, 28-0175-1

TRANSPORTATION INFORMATION

GR-2001-2029-7, GR-2001-2031-3

Component 1

ADR/RID: UN3259, AMINES, SOLID, CORROSIVE, N.O.S., LIMITED QUANTITY, (DIETHYLENETRIAMINE), (TRIETHYLENETETRAMINE), 8., III, (--), ADR Classification Code: C8.

IMDG-CODE: UN3259, AMINES, SOLID, CORROSIVE, N.O.S., (DIETHYLENETRIAMINE), (TRIETHYLENETETRAMINE), 8., III, IMDG-Code segregation code: 18- ALKALIS, LIMITED QUANTITY, EMS: FA,SB.

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Kit)

ICAO/IATA: UN3259, AMINES, SOLID, CORROSIVE, N.O.S., (DIETHYLENTRIAMINE), (TRIETHYLENETETRAMINE), 8, III.

Component 2

ADR/RID: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O. SLIMITED QUANTITY, (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), 9., III, (--), ADR Classification Code: M7.

IMDG-CODE: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), 9., III, LIMITED QUANTITY, EMS: FA, SF.

ICAO/IATA: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), 9., III, fish and tree marking may be required (> 5kg/l).

KIT LABEL

2.2. Label elements

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Symbols

C	Corrosive.
N	Dangerous to environment.

Contains:

Consult the component labels for disclosable ingredients.

Risk phrases

R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R43	May cause sensitisation by skin contact.
R68	Possible risks of irreversible effects.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases

S23A	Do not breathe vapour.
S36/37/39B	Wear suitable protective clothing, gloves, and eye and face protection.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28C	After contact with skin, wash immediately with plenty of water for 15 minutes.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Special provisions concerning the labelling of certain substances

Contains epoxy resins. See information supplied by manufacturer.

Revision information:

Revision Changes:

Kit: Component document group number(s) was modified.

Section 1: Product identification numbers was modified.



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Revision date:	09/05/2012	Supersedes date:	05/04/2012
Transportation version number:	2.00 (13/02/2012)		

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Part A)

Product identification numbers

GR-2001-0811-0 GR-2001-0927-4 GR-2001-1744-2

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Coating.

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com

Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Indication of danger

Dangerous to environment.

Irritant.

Sensitising

2.2. Label elements

SUPPLEMENTAL INFORMATION

Supplemental Hazard Statements:

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Part A)

EUH205 Contains epoxy constituents. May produce an allergic reaction.

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive**Symbols**

Xi Irritant.
N Dangerous to environment.

Contains:

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane; Phenol-formaldehyde polymer, glycidyl ether

Risk phrases

R36/38 Irritating to eyes and skin.
R43 May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases

S24 Avoid contact with skin.
S37 Wear suitable gloves.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.

Special provisions concerning the labelling of certain substances

Contains epoxy resins. See information supplied by manufacturer.

Notes on labelling**2.3. Other hazards**

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Non-hazardous ingredients	Mixture		40 - 65	
Silicon Carbide	409-21-2	EINECS 206-991-8	10 - 20	
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4		10 - 20	N:R51/53; R43 (Self Classified) Skin Sens. 1, H317; Aquatic Chronic 2, H411 (Self Classified)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	NLP 500-033-5	10 - 20	Xi:R36-38; N:R51/53; R43 (EU) Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411 (CLP)
Titanium	7440-32-6	EINECS 231-142-3	1 - 5	
Titanium dioxide	13463-67-7	EINECS 236-675-5	1 - 5	

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Part A)

Manganese	7439-96-5	EINECS 231-105-1	1 - 5	
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Please see section 16 for the full text of any R phrases and H statements referred to in this section

Please refer to section 15 for the any applicable Notas that have been applied to the above components

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye contact

Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, 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.

Inhalation

Remove person to fresh air. If you feel unwell, 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. Extinguishing media

In case of fire: Use a carbon dioxide or dry chemical extinguisher for extinction.

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Aldehydes.
Carbon monoxide.
Carbon dioxide.

Condition

During combustion.
During combustion.
During combustion.

5.3. Advice for fire-fighters

No unusual fire or explosion hazards are anticipated.

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 vapours, in accordance with good industrial hygiene practice. Warning: A motor could be an ignition

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Part A)

source and could cause flammable gases or vapours in the spill area to burn or explode. 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 dykes 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 toxic, corrosivity or flammability hazard. Collect as much of the spilled material as possible. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Place in a closed container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

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 oxidising agents. Store away from strong bases.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Titanium dioxide	13463-67-7	Health and Safety Comm. (UK)	TWA(Inhalable):10 mg/m ³ ;TWA(respirable):4 mg/m ³	
Silicon Carbide	409-21-2	Health and Safety Comm. (UK)	TWA(Inhalable):10 mg/m ³ ;TWA(respirable):4 mg/m ³	
Manganese	7439-96-5	Health and Safety Comm. (UK)	TWA(as Mn):0.5 mg/m ³	

Health and Safety Comm. (UK) : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

ppm: parts per million

mg/m³: milligrams per cubic metre

CEIL: Ceiling

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Derived no effect level (DNEL)

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	8.3 mg/kg bw/d
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Worker	Dermal, Short-term exposure, Systemic effects	8.3 mg/kg
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	12.3 mg/m ³
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Worker	Inhalation, Short-term exposure, Systemic effects	12.3 mg/m ³

Predicted no effect concentrations (PNEC)

Ingredient	Degradation Product	Compartment	PNEC
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Freshwater	0.003 mg/l
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Freshwater sediments	0.5 mg/kg w.w.
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Intermittent releases to water	0.013 mg/l
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Marine water	0.0003 mg/l
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Marine water sediments	0.5 mg/kg w.w.
4,4'-Isopropylidenediphenol,		Sewage Treatment Plant	10 mg/l

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oligomeric reaction products with 1-chloro-2,3-epoxypropane			
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8.2. Exposure controls

8.2.1. Engineering controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Wear eye/face protection.

The following eye protection(s) are recommended: Indirect vented goggles.

Skin/hand protection

Wear protective gloves and protective clothing.

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

Nitrile rubber.

The following protective clothing material(s) are recommended: Neoprene apron.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Select one of the following approved respirators based on airborne concentration of contaminants and in accordance with regulations:

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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Faint epoxy odour; Grey/Black colour.
pH	<i>No data available.</i>
Boiling point/boiling range	<i>No data available.</i>
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	≥ 240 °C [<i>Test Method: Closed Cup</i>]
Autoignition temperature	≥ 300 °C
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	<i>No data available.</i>
Relative density	2.650 [<i>Ref Std: WATER=1</i>]
Water solubility	Negligible
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>Not applicable.</i>

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Vapour density *No data available.*

Viscosity *No data available.*

Density 2.65 g/ml

9.2. Other information

Volatile organic compounds (VOC) 0 g/l [*Test Method*:Estimated] [*Details*:EU Definition]

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 polymerisation will not occur.

10.4 Conditions to avoid

Avoid curing large quantities of material to prevent a premature reaction (exotherm) with production of intense heat and smoke.

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

10.5 Incompatible materials

Accelerators

Amines.

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

Strong acids.

Strong bases.

Strong oxidising agents.

10.6 Hazardous decomposition products

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

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 labelling, 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:

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Part A)**Eye contact**

Moderate eye irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

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.

Inhalation

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

Ingestion

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea.

Toxicological Data**Acute Toxicity**

Name	Route	Species	Value
Overall product	Ingestion		No test data available; calculated ATE >5,000 mg/kg
Phenol-formaldehyde polymer, glycidyl ether	Dermal	Rabbit	LD50 > 6,000 mg/kg
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Dermal	Rat	LD50 > 1,600 mg/kg
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Ingestion	Rat	LD50 > 1,000 mg/kg
Phenol-formaldehyde polymer, glycidyl ether	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.7 mg/l
Phenol-formaldehyde polymer, glycidyl ether	Ingestion	Rat	LD50 > 4,000 mg/kg
Silicon Carbide	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 7 mg/l
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Manganese	Dermal		LD50 estimated to be > 5,000 mg/kg
Manganese	Ingestion	Rat	LD50 > 9,000 mg/kg
Titanium	Dermal		LD50 estimated to be > 5,000 mg/kg
Titanium	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Mild irritant
Phenol-formaldehyde polymer, glycidyl ether		Minimal irritation
Silicon Carbide		No data available
Titanium dioxide		No significant irritation
Manganese		No data available
Titanium		No data available

Serious Eye Damage/Irritation

Name	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Moderate irritant

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Phenol-formaldehyde polymer, glycidyl ether		Mild irritant
Silicon Carbide		No data available
Titanium dioxide		Mild irritant
Manganese		No data available
Titanium		No data available

Skin Sensitisation

Name	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Sensitising
Phenol-formaldehyde polymer, glycidyl ether		Sensitising
Silicon Carbide		No data available
Titanium dioxide		Not sensitizing
Manganese		No data available
Titanium		No data available

Respiratory Sensitisation

Name	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Human	Some positive data exist, but the data are not sufficient for classification
Phenol-formaldehyde polymer, glycidyl ether		No data available
Silicon Carbide		No data available
Titanium dioxide		No data available
Manganese		No data available
Titanium		No data available

Germ Cell Mutagenicity

Name	Route	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	In vivo	Not mutagenic
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	In Vitro	Some positive data exist, but the data are not sufficient for classification
Phenol-formaldehyde polymer, glycidyl ether	In Vitro	Some positive data exist, but the data are not sufficient for classification
Silicon Carbide		No data available
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	Ingestion	Not mutagenic
Manganese		No data available
Titanium		No data available

Carcinogenicity

Name	Route	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Phenol-formaldehyde polymer, glycidyl ether			No data available
Silicon Carbide			No data available
Titanium dioxide	Ingestion		Not carcinogenic
Titanium dioxide	Inhalation		Some positive data exist, but the data are not sufficient for classification
Manganese			No data available
Titanium			No data available

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

Name	Route	Value	Species	Test result	Exposure Duration
4,4'-	Ingestion	Not toxic to female	Rat	NOAEL 750	2 generation

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Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		reproduction		mg/kg/day	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation
Phenol-formaldehyde polymer, glycidyl ether		No data available			
Silicon Carbide		No data available			
Titanium dioxide		No data available			
Manganese		No data available			
Titanium		No data available			

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Phenol-formaldehyde polymer, glycidyl ether	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive	
Silicon Carbide			No data available			
Titanium dioxide	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive	
Manganese			No data available			
Titanium			No data available			

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4,4'-Isopropylidenediphenol, oligomeric reaction products with	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years

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1-chloro-2,3-epoxypropane						
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Dermal	nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	13 weeks
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	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
Phenol-formaldehyde polymer, glycidyl ether			No data available			
Silicon Carbide	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification		HHA	
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification		NOEL 10 mg/m ³	
Titanium dioxide	Inhalation	pulmonary fibrosis	All data are negative		NOAEL N/A	
Manganese			No data available			
Titanium			No data available			

Aspiration Hazard

Name	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Not an aspiration hazard
Phenol-formaldehyde polymer, glycidyl ether	Not an aspiration hazard
Silicon Carbide	Not an aspiration hazard
Titanium dioxide	Not an aspiration hazard
Manganese	Not an aspiration hazard
Titanium	Not an 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 labelling, 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

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Part A)

Acute aquatic hazard:

GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:

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

No product test data available.

No component test data available.

12.2. Persistence and degradability

No test data available.

12.3 : Bioaccumulative potential

No test data available.

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

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. Incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Dispose of completely cured (or polymerised) material in a permitted industrial waste facility. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 01 11* Waste paint and varnish containing organic solvents or other dangerous substances

SECTION 14: Transportation information

GR-2001-0811-0, GR-2001-0927-4

ADR/RID: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. LIMITED QUANTITY, (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), (4,4'-ISOPROPYLIDENEDIPHENOL-

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EPICHLOROHYDRIN POLYMER), 9., III, (--), ADR Classification Code: M7.

IMDG-CODE: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), 9., III, LIMITED QUANTITY, Marine Pollutant, (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER AND 4,4-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), EMS: FA,SF.

ICAO/IATA: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), 9., III, fish and tree marking may be required (> 5kg/l).

GR-2001-1744-2

ADR/RID: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), 9., III, (E), ENVIRONMENTALLY HAZARDOUS, ADR Classification Code: M7.

IMDG-CODE: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), 9., III, Marine Pollutant, (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER AND 4,4-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), EMS: FA,SF.

ICAO/IATA: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROHYDRIN POLYMER), (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), 9., III, fish and tree marking may be required (> 5kg/l).

SECTION 15: Regulatory information

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

Carcinogenicity

<u>Ingredient</u>	<u>CAS Nbr</u>	<u>Classification</u>	<u>Regulation</u>
Titanium dioxide	13463-67-7	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of 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 new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA.

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

List of relevant H statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

List of relevant R-phrases

R36	Irritating to eyes.
-----	---------------------

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R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Revision information:

Revision Changes:

Section 8: Respiratory protection - recommended respirators information was modified.

Section 3: Composition/ Information of ingredients table was modified.

Aspiration Hazard Table was modified.

Section 11: Acute Toxicity table was modified.

Carcinogenicity Table was modified.

Serious Eye Damage/Irritation Table was modified.

Germ Cell Mutagenicity Table was modified.

Skin Sensitisation Table was modified.

Respiratory Sensitisation Table was modified.

Reproductive Toxicity Table was modified.

Skin Corrosion/Irritation Table was modified.

Target Organs - Repeated Table was modified.

Target Organs - Single Table was modified.

Section 11: UN GHS Classification table heading was deleted.

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 United Kingdom MSDSs are available at www.3M.com/uk



Safety Data Sheet

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Transportation version number: 3.00 (26/03/2012)			

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Part B)

Product identification numbers

GR-2001-0926-6

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Coating.

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com

Website: www.3M.com/uk

1.4. Emergency telephone number

+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive

Indication of danger

Mutagenic; Muta. Cat. 3; R68

Harmful; Xn; R20/21/22

Corrosive; C; R34

Sensitizing; R43

For full text of R phrases, see Section 16.

2.2. Label elements

3M Scotchkote Epoxy Ceramic Rebuild EG 513 (Part B)**Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive****Symbol(s)**

Corrosive

Contains:

4,4'-Isopropylidenediphenol; Diethylenetriamine; Phenol; Triethylenetetramine

Risk phrases

R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R34	Causes burns.
R43	May cause sensitisation by skin contact.
R68	Possible risks of irreversible effects.

Safety phrases

S23A	Do not breathe vapour.
S24	Avoid contact with skin.
S36/37/39B	Wear suitable protective clothing, gloves, and eye and face protection.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28C	After contact with skin, wash immediately with plenty of water for 15 minutes.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

2.3. Other hazards

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines. May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Non-hazardous ingredients	Mixture		45 - 55	
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine	32610-77-8	NLP 500-083-8	10 - 20	
Glass, oxide, chemicals	65997-17-3	EINECS 266-046-0	10 - 20	
Diethylenetriamine	111-40-0	EINECS 203-865-4	5 - 15	C:R34; Xn:R21-22; R43 (EU) Acute Tox. 4, H312; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317 (CLP)
Titanium dioxide	13463-67-7	EINECS 236-675-5	5 - 15	
Dimethyl siloxane, reaction product with silica	67762-90-7		1 - 5	
4,4'-Isopropylidenediphenol	80-05-7	EINECS 201-245-8	1 - 5	Repr.Cat.3:R62; Xi:R37-41; R43; R52 (EU) Eye Dam. 1, H318; Skin Sens. 1, H317; Repr. 2, H361f; STOT SE 3, H335 (CLP) Aquatic Chronic 2, H411 (Self

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				Classified)
Triethylenetetramine	112-24-3	EINECS 203-950-6	1 - 5	C:R34; Xn:R21; R43; R52/53 (EU) Acute Tox. 3, H311; Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 3, H412 (CLP)
Phenol	108-95-2	EINECS 203-632-7	1 - 5	Muta.Cat.3:R68; T:R23-24-25; C:R34; Xn:R48/20; Xn:R48/21; Xn:R48/22 (EU) R52 (Self Classified) Acute Tox. 3, H331; Acute Tox. 3, H311; Acute Tox. 3, H301; Skin Corr. 1B, H314; Muta. 2, H341; STOT RE 1, H372 (CLP) Aquatic Chronic 1, H410,M=1 (Self Classified)
Quartz	14808-60-7	EINECS 238-878-4	< 1	Xn:R48/20 (Vendor) STOT RE 1, H372 (Self Classified)

Please see section 16 for the full text of any R phrases and H statements referred to in this section

Please refer to section 15 for the any applicable Notas that have been applied to the above components

For information on ingredient occupational exposure limits or PBT or vPvB status, see sections 8 and 12 of this SDS

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. Extinguishing media**

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

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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. Advice for fire-fighters

No unusual fire or explosion hazards are anticipated.

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 vapours, in accordance with good industrial hygiene practice. Warning: A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. 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 dykes 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 toxic, corrosivity or flammability hazard. Collect as much of the spilled material as possible. Place in a metal container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorised person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and Safety Data Sheet. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections

Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling

For industrial or professional use only. Do not use in a confined area or areas with little or no air movement. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators...) 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 heat. Keep from freezing. Store away from acids. Store away from strong bases. Store away from oxidising agents.

7.3. Specific end use(s)

See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Phenol	108-95-2	Health and Safety Comm. (UK)	TWA:7.8 mg/m ³ (2 ppm);STEL:16 mg/m ³ (4 ppm)	Skin Notation
Diethylenetriamine	111-40-0	Health and Safety Comm. (UK)	TWA:4.3 mg/m ³ (1 ppm)	Skin Notation
Titanium dioxide	13463-67-7	Health and Safety Comm. (UK)	TWA(Inhalable):10 mg/m ³ ;TWA(respirable):4 mg/m ³	
Silica, crystalline (airborne particles of respirable size)	14808-60-7	Health and Safety Comm. (UK)	TWA(respirable):0.1 mg/m ³	
Glass filaments	65997-17-3	Health and Safety Comm. (UK)	TWA(as fiber):5 mg/m ³ (1 fibers/ml)	
Glass, oxide, chemicals	65997-17-3	Manufacturer determined	TWA(as dust):10 mg/m ³	
Silica, amorphous	67762-90-7	Health and Safety Comm. (UK)	TWA(as inhalable dust):6 mg/m ³ ;TWA(as respirable dust):2.4 mg/m ³	
4,4'-Isopropylidenediphenol	80-05-7	Health and Safety Comm. (UK)	TWA(as inhalable dust):10 mg/m ³	

Health and Safety Comm. (UK) : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

ppm: parts per million

mg/m³: milligrams per cubic metre

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Wear eye/face protection.

The following eye protection(s) are recommended: Full face shield.

Indirect vented goggles.

Skin/hand protection

Wear protective gloves and protective clothing.

Gloves made from the following material(s) are recommended: Butyl rubber.

Neoprene.

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Polymer laminate

The following protective clothing material(s) are recommended: Neoprene boots.

Coveralls - Disposable

Neoprene apron.

Respiratory protection

In case of inadequate ventilation wear 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:

Full facepiece air-purifying respirator suitable for organic vapours 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

Physical state	Solid.
Specific Physical Form:	Paste
Appearance/Odour	Ammonia odour; Grey colour
Odour threshold	<i>No data available.</i>
pH	≥ 8 [<i>Details: Alkaline</i>]
Boiling point/boiling range	≥ 250 °C
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	≥ 150 °C [<i>Test Method: Closed Cup</i>]
Autoignition temperature	≥ 450 °C
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	≤ 13.3 Pa
Relative density	1.73 [<i>Ref Std: WATER=1</i>]
Water solubility	Negligible
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>Not applicable.</i>
Vapour density	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Density	1.73 g/ml

9.2. Other information

Volatile organic compounds (VOC)	0 g/l [<i>Test Method: Estimated</i>] [<i>Details: EU Definition (Part A and B mix)</i>]
Percent volatile	0 % weight

SECTION 10: Stability and reactivity

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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 polymerisation will not occur.

10.4 Conditions to avoid

Avoid curing large quantities of material to prevent a premature reaction (exotherm) with production of intense heat and smoke.

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

10.5 Incompatible materials

Amines.

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

Strong acids.

Strong bases.

Strong oxidising agents.

10.6 Hazardous decomposition products

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

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 labelling, 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. May cause target organ effects after inhalation.

Skin contact

Corrosive (skin burns): Signs/symptoms may include localised 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. Photosensitisation: Signs/symptoms may include a sunburn-like reaction such as blistering, redness, swelling, and itching from minor exposure to sunlight. May cause target organ effects after skin contact.

Eye contact

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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

Harmful if swallowed.

Gastrointestinal corrosion: Signs/symptoms may include severe mouth, throat and abdominal pain, nausea, vomiting, and diarrhea; blood in the faeces and/or vomitus may also be seen. May cause target organ effects after ingestion.

Target Organ Effects:

Single exposure may cause:

Cardiac effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal. Hematopoietic effects: Signs/symptoms may include generalised weakness, fatigue and alterations in numbers of circulating blood cells. Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate. Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure. Kidney/Bladder effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Prolonged or repeated exposure may cause:

Cardiac effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal. Hematopoietic effects: Signs/symptoms may include generalised weakness, fatigue and alterations in numbers of circulating blood cells. Liver effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice. Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate. Respiratory effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish coloured skin (cyanosis), sputum production, changes in lung function tests, and respiratory failure. Kidney/Bladder effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Reproductive/Developmental Toxicity:

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

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Additional information:

Persons previously sensitised to amines may develop a cross-sensitisation reaction to certain other amines.

Toxicological Data

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		Data not available or insufficient for classification; calculated ATE1,579.6 mg/kg
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine			Data not available or insufficient for classification
Glass, oxide, chemicals	Dermal		LD50 estimated to be > 5,000 mg/kg
Glass, oxide, chemicals	Ingestion		LD50 estimated to be 2,000 - 5,000 mg/kg
Non-hazardous ingredients			Data not available or insufficient for classification
Titanium dioxide	Dermal	Rabbit	LD50 > 10,000 mg/kg
Titanium dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6.8 mg/l

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Titanium dioxide	Ingestion	Rat	LD50 > 10,000 mg/kg
Diethylenetriamine	Dermal	Rabbit	LD50 950 mg/kg
Diethylenetriamine	Ingestion	Rat	LD50 819 mg/kg
Triethylenetetramine	Dermal	Rabbit	LD50 550 mg/kg
Triethylenetetramine	Ingestion	Rat	LD50 2,500 mg/kg
Dimethyl siloxane, reaction product with silica	Dermal	Rabbit	LD50 > 5,000 mg/kg
Dimethyl siloxane, reaction product with silica	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 0.691 mg/l
Dimethyl siloxane, reaction product with silica	Ingestion	Rat	LD50 > 5,110 mg/kg
4,4'-Isopropylidenediphenol	Dermal	Rabbit	LD50 > 2,000 mg/kg
4,4'-Isopropylidenediphenol	Ingestion	Rat	LD50 3,200 mg/kg
Phenol	Inhalation-Vapor		LC50 estimated to be 2 - 10 mg/l
Phenol	Dermal	Rat	LD50 670 mg/kg
Phenol	Ingestion	Rat	LD50 340 mg/kg
Quartz	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine		Data not available or insufficient for classification
Glass, oxide, chemicals		Data not available or insufficient for classification
Non-hazardous ingredients		Data not available or insufficient for classification
Titanium dioxide		No significant irritation
Diethylenetriamine		Corrosive
Triethylenetetramine		Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol		Minimal irritation
Phenol		Corrosive
Quartz		No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine		Data not available or insufficient for classification
Glass, oxide, chemicals		Data not available or insufficient for classification
Non-hazardous ingredients		Data not available or insufficient for classification
Titanium dioxide		Mild irritant
Diethylenetriamine		Corrosive
Triethylenetetramine		Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol		Severe irritant
Phenol		Corrosive
Quartz		Data not available or insufficient for classification

Skin Sensitisation

Name	Species	Value
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine		Data not available or insufficient for classification
Glass, oxide, chemicals		Data not available or insufficient for

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		classification
Non-hazardous ingredients		Data not available or insufficient for classification
Titanium dioxide		Not sensitizing
Diethylenetriamine		Sensitising
Triethylenetetramine		Sensitising
Dimethyl siloxane, reaction product with silica	Human and animal	Not sensitizing
4,4'-Isopropylidenediphenol		Sensitising
Phenol		Not sensitizing
Quartz		Data not available or insufficient for classification

Photosensitisation

Name	Species	Value
4,4'-Isopropylidenediphenol		Sensitising

Respiratory Sensitisation

Name	Species	Value
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine		Data not available or insufficient for classification
Glass, oxide, chemicals		Data not available or insufficient for classification
Non-hazardous ingredients		Data not available or insufficient for classification
Titanium dioxide		Data not available or insufficient for classification
Diethylenetriamine		Sensitising
Triethylenetetramine		Sensitising
Dimethyl siloxane, reaction product with silica		Data not available or insufficient for classification
4,4'-Isopropylidenediphenol		Data not available or insufficient for classification
Phenol		Data not available or insufficient for classification
Quartz		Data not available or insufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine		Data not available or insufficient for classification
Glass, oxide, chemicals	In Vitro	Some positive data exist, but the data are not sufficient for classification
Non-hazardous ingredients		Data not available or insufficient for classification
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	Ingestion	Not mutagenic
Diethylenetriamine	In Vitro	Not mutagenic
Triethylenetetramine		Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica	In Vitro	Not mutagenic
4,4'-Isopropylidenediphenol	In vivo	Some positive data exist, but the data are not sufficient for classification
Phenol	In vivo	Some positive data exist, but the data are not sufficient for classification
Quartz	In vivo	Some positive data exist, but the data are not sufficient for classification

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Carcinogenicity

Name	Route	Species	Value
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine			Data not available or insufficient for classification
Glass, oxide, chemicals	Inhalation		Carcinogenic.
Non-hazardous ingredients			Data not available or insufficient for classification
Titanium dioxide	Ingestion		Not carcinogenic
Titanium dioxide	Inhalation		Some positive data exist, but the data are not sufficient for classification
Diethylenetriamine	Dermal		Not carcinogenic
Triethylenetetramine			Data not available or insufficient for classification
Dimethyl siloxane, reaction product with silica	Not specified.	Mouse	Some positive data exist, but the data are not sufficient for classification
4,4'-Isopropylidenediphenol	Ingestion		Some positive data exist, but the data are not sufficient for classification
Phenol	Dermal		Some positive data exist, but the data are not sufficient for classification
Phenol	Ingestion		Some positive data exist, but the data are not sufficient for classification
Quartz	Inhalation		Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine		Data not available or insufficient for classification			
Glass, oxide, chemicals		Data not available or insufficient for classification			
Non-hazardous ingredients		Data not available or insufficient for classification			
Titanium dioxide		Data not available or insufficient for classification			
Diethylenetriamine	Ingestion	Some positive reproductive/developmental data exist, but the data are not sufficient for classification		NOEL 30 mg/kg/day	
Triethylenetetramine	Not specified.	Toxic to reproduction and/or development			
Dimethyl siloxane, reaction product with silica	Ingestion	Not toxic to female reproduction	Rat	NOAEL 509 mg/kg/day	1 generation
Dimethyl siloxane, reaction product with silica	Ingestion	Not toxic to male reproduction	Rat	NOAEL 497 mg/kg/day	1 generation
Dimethyl siloxane, reaction product with silica	Ingestion	Not toxic to development	Rat	NOAEL 1,350 mg/kg/day	during organogenesis
4,4'-	Inhalation	Not toxic to		NOAEL 0.15	

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Isopropylidenediphenol		reproduction and/or development		mg/l	
4,4'-Isopropylidenediphenol	Ingestion	Toxic to reproduction and/or development		LOAEL 50 mg/kg/day	
Phenol	Ingestion	Some positive reproductive/developmental data exist, but the data are not sufficient for classification		LOEL 321 mg/kg/day	
Quartz		Data not available or insufficient for classification			

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine			Data not available or insufficient for classification			
Glass, oxide, chemicals	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive	
Non-hazardous ingredients			Data not available or insufficient for classification			
Titanium dioxide	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive	
Diethylenetriamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive	
Triethylenetetramine			Data not available or insufficient for classification			
Dimethyl siloxane, reaction product with silica			Data not available or insufficient for classification			
4,4'-Isopropylidenediphenol	Inhalation	respiratory irritation	May cause respiratory irritation		Irritation Positive	
4,4'-Isopropylidenediphenol	Ingestion	central nervous system depression	Some positive data exist, but the data are not sufficient for classification		LOAEL 500 mg/kg	

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Phenol	Dermal	hematopoietic system kidney and/or bladder	Causes damage to organs		NOAEL N/A	
Phenol	Dermal	heart	Causes damage to organs		LOAEL 107.1 mg/kg	
Phenol	Dermal	nervous system	May cause damage to organs		LOAEL 107.1 mg/kg	
Phenol	Dermal	liver	Some positive data exist, but the data are not sufficient for classification		NOEL N/A	
Phenol	Inhalation	respiratory irritation	May cause respiratory irritation		Irritation Positive	
Phenol	Ingestion	respiratory system	Causes damage to organs		NOAEL N/A	
Phenol	Ingestion	kidney and/or bladder	Causes damage to organs		NOAEL 120 mg/kg	
Phenol	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification		NOAEL N/A	
Phenol	Ingestion	endocrine system liver	Some positive data exist, but the data are not sufficient for classification		LOEL 224 mg/kg	
Quartz	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Formaldehyde , oligomeric reaction products with phenol and triethylenetetramine			Data not available or insufficient for classification			
Glass, oxide, chemicals	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification		NOEL N/A	
Non-hazardous ingredients			Data not available or insufficient for classification			
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification		NOEL 10 mg/m ³	
Titanium dioxide	Inhalation	pulmonary fibrosis	All data are negative		NOAEL N/A	
Diethylenetriamine	Ingestion	liver kidney	Some positive		NOEL 80	

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mine		and/or bladder	data exist, but the data are not sufficient for classification		mg/kg/day	
Diethylenetriamine	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification		NOEL 620 mg/kg/day	
Triethylenetetramine	Dermal	liver kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure			
Dimethyl siloxane, reaction product with silica	Inhalation	respiratory system silicosis	All data are negative	Human	NOAEL Not available	occupational exposure
4,4'-Isopropylidene diphenol	Inhalation	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification		NOEL 0.05 mg/l	
4,4'-Isopropylidene diphenol	Inhalation	hematopoietic system	All data are negative		NOAEL 0.15 mg/l	
4,4'-Isopropylidene diphenol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification		NOAEL 50 mg/kg/day	
4,4'-Isopropylidene diphenol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification		NOAEL 370 mg/kg/day	
4,4'-Isopropylidene diphenol	Ingestion	skin	Some positive data exist, but the data are not sufficient for classification		LOEL 7 mg/kg/day	
4,4'-Isopropylidene diphenol	Ingestion	endocrine system hematopoietic system	Some positive data exist, but the data are not sufficient for classification		NOEL 50 mg/kg/day	
4,4'-Isopropylidene diphenol	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification		NOEL 37 mg/kg/day	
4,4'-Isopropylidene diphenol	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification		NOEL 1,200 mg/kg/day	
Phenol	Dermal	nervous system	May cause damage to organs though prolonged or repeated		NOAEL N/A	

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			exposure			
Phenol	Inhalation	heart liver kidney and/or bladder respiratory system	Causes damage to organs through prolonged or repeated exposure		LOAEL 0.1 mg/l	
Phenol	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure		LOAEL 0.1 mg/l	
Phenol	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification		NOAEL N/A	
Phenol	Inhalation	immune system	All data are negative		NOAEL 0.1 mg/l	
Phenol	Ingestion	kidney and/or bladder	Causes damage to organs through prolonged or repeated exposure		NOAEL 12 mg/kg/day	
Phenol	Ingestion	hematopoietic system	Causes damage to organs through prolonged or repeated exposure		LOAEL 1.8 mg/kg/day	
Phenol	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure		LOAEL 308 mg/kg/day	
Phenol	Ingestion	respiratory system	Some positive data exist, but the data are not sufficient for classification		LOEL 40 mg/kg/day	
Phenol	Ingestion	liver	Some positive data exist, but the data are not sufficient for classification		NOEL 12 mg/kg/day	
Phenol	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification		NOEL 1.8 mg/kg/day	
Phenol	Ingestion	skin bone, teeth, nails, and/or hair	All data are negative		NOAEL 1,204 mg/kg/day	
Phenol	Ingestion	endocrine system	All data are negative		NOAEL 120 mg/kg/day	
Quartz	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure		NOAEL N/A	

Aspiration Hazard

Name	Value
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine	Not an aspiration hazard
Glass, oxide, chemicals	Not an aspiration hazard

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Non-hazardous ingredients	Not an aspiration hazard
Titanium dioxide	Not an aspiration hazard
Diethylenetriamine	Not an aspiration hazard
Triethylenetetramine	Not an aspiration hazard
Dimethyl siloxane, reaction product with silica	Not an aspiration hazard
4,4'-Isopropylidenediphenol	Not an aspiration hazard
Phenol	Not an aspiration hazard
Quartz	Not an 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 labelling, 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 3: Harmful to aquatic life.

Chronic aquatic hazard:

GHS Chronic 2: Toxic to aquatic life with long lasting effects.

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
4,4'-Isopropylidene diphenol	80-05-7	Green Algae	Experimental	96 hours	EC50	2.5 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Mysid Shrimp	Experimental	96 hours	LC50	1.1 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Rainbow trout	Experimental	96 hours	LC50	4 mg/l
Diethylenetriamine	111-40-0	Water flea	Experimental	48 hours	EC50	16 mg/l
Diethylenetriamine	111-40-0	Green Algae	Experimental	96 hours	EC50	345.6 mg/l
Diethylenetriamine	111-40-0	Golden Orfe	Experimental	96 hours	LC50	248 mg/l
Phenol	108-95-2	Green algae	Experimental	96 hours	EC50	61.1 mg/l
Phenol	108-95-2	Water flea	Experimental	48 hours	EC50	4.2 mg/l
Phenol	108-95-2	Rainbow trout	Experimental	96 hours	LC50	5.02 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Crustacea other	Experimental	96 hours	EC50	>300 mg/l
Titanium dioxide	13463-67-7	Sheepshead Minnow	Experimental	96 hours	LC50	>240 mg/l

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Triethylenetetramine	112-24-3	Guppy	Experimental	96 hours	LC50	570 mg/l
Triethylenetetramine	112-24-3	Water flea	Experimental	48 hours	EC50	31.1 mg/l
Triethylenetetramine	112-24-3	Green algae	Experimental	72 hours	EC50	20 mg/l
4,4'-Isopropylidene diphenol	80-05-7	Common Carp	Experimental	49 days	NOEC	0.1 mg/l
Diethylenetriamine	111-40-0	Fish	Experimental	28 days	NOEC	>10 mg/l
Diethylenetriamine	111-40-0	Water flea	Experimental	21 days	NOEC	5.6 mg/l
Phenol	108-95-2	Water flea	Experimental	11 days	NOEC	0.5 mg/l
Phenol	108-95-2	Rainbow trout	Experimental	30 days	NOEC	2 micrograms/liter
Titanium dioxide	13463-67-7	Fish	Experimental	30 days	NOEC	>=1,000 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	30 days	NOEC	3 mg/l
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine	32610-77-8		Data not available or insufficient for classification			
Dimethyl siloxane, reaction product with silica	67762-90-7		Data not available or insufficient for classification			
Glass, oxide, chemicals	65997-17-3		Data not available or insufficient for classification			
Quartz	14808-60-7		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine	32610-77-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dimethyl siloxane, reaction product with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

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4,4'-Isopropylidene diphenol	80-05-7	Experimental Biodegradation	28 days	BOD	76 % weight	OECD 301F - Manometric respirometry
Triethylenetetramine	112-24-3	Experimental Biodegradation	20 days	BOD	0 % weight	OECD 301D - Closed bottle test
Diethylenetriamine	111-40-0	Experimental Biodegradation	14 days	BOD	0 % weight	OECD 301C - MITI test (I)
Phenol	108-95-2	Experimental Biodegradation	14 days	BOD	85 % weight	OECD 301C - MITI test (I)
Quartz	14808-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Glass, oxide, chemicals	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Formaldehyde, oligomeric reaction products with phenol and triethylenetetramine	32610-77-8	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Dimethyl siloxane, reaction product with silica	67762-90-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-Isopropylidene diphenol	80-05-7	Experimental BCF-Carp	42 days	Bioaccumulation factor	67.7	Other methods
Triethylenetetramine	112-24-3	Experimental BCF-Carp	42 days	Bioaccumulation factor	<5.0	OECD 305E - Bioaccumulation flow-through fish test
Diethylenetriamine	111-40-0	Experimental BCF-Carp	42 days	Bioaccumulation factor	6.3	OECD 305E - Bioaccumulation flow-through fish test
Phenol	108-95-2	Experimental Bioconcentration		Log Kow	1.46	Other methods
Quartz	14808-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Titanium dioxide	13463-67-7	Experimental BCF - Other	42 days	Bioaccumulation factor	9.6	Other methods

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Glass, oxide, chemicals	65997-17-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
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12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

No information available at this time, contact manufacturer for more details

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

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

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. As a disposal alternative, Dispose of waste product in a permitted industrial waste 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.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 01 11* Waste paint and varnish containing organic solvents or other dangerous substances

SECTION 14: Transportation information

GR-2001-0926-6

ADR/RID: UN3259, AMINES, SOLID, CORROSIVE, N.O.S., LIMITED QUANTITY, (DIETHYLENETRIAMINE), (TRIETHYLENETETRAMINE), 8., III, (E), ADR Classification Code: C8.

IMDG-CODE: UN3259, AMINES, SOLID, CORROSIVE, N.O.S., (DIETHYLENETRIAMINE), (TRIETHYLENETETRAMINE), 8., III, IMDG-Code segregation code: 18- ALKALIS, LIMITED QUANTITY, Marine Pollutant, (PHENOL), EMS: FA, SB.

ICAO/IATA: UN3259, AMINES, SOLID, CORROSIVE, N.O.S., (DIETHYLENETRIAMINE), (TRIETHYLENETETRAMINE), 8, III.

SECTION 15: Regulatory information

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

Carcinogenicity
Ingredient

CAS Nbr

Classification

Regulation

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Phenol	108-95-2	Gr. 3: Not classifiable	International Agency for Research on Cancer
Quartz	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

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA.

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

List of relevant H statements

H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H361f	Suspected of damaging fertility.
H372	Causes damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

List of relevant R-phrases

R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R21	Harmful in contact with skin.
R22	Harmful if swallowed.
R23	Toxic by inhalation.
R24	Toxic in contact with skin.
R25	Toxic if swallowed.
R34	Causes burns.
R37	Irritating to respiratory system.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R48/21	Harmful: Danger of serious damage to health by prolonged exposure in contact with skin.
R48/22	Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R52	Harmful to aquatic organisms.

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R52/53 Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R62 Possible risk of impaired fertility.
R68 Possible risks of irreversible effects.

Revision information:

Revision Changes:

Section 1: Product identification numbers was modified.

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 United Kingdom MSDSs are available at www.3M.com/uk