



Safety Data Sheet

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Document group:	28-4546-9	Version number:	3.02
Revision date:	14/05/2012	Supersedes date:	29/09/2011
Transportation version number:	9.00 (04/04/2012)		

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 Surfacers FG 512 (Mid Grey) (Kit)

Product identification numbers

GR-2001-2043-8 GR-2001-2044-6

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:

28-0395-5, 28-0442-5

TRANSPORTATION INFORMATION

GR-2001-2043-8, GR-2001-2044-6

Component 1

ADR/RID: UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S., LIMITED QUANTITY, (ISOPHORONE DIAMINE AND DIETHYLENTRIAMINE), 8, III, (--), ADR Classification Code: C7.

IMDG-CODE: UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S., (ISOPHORONE DIAMINE AND DIETHYLENTRIAMINE), 8., III, IMDG-Code segregation code: 18- ALKALIS, LIMITED QUANTITY, EMS: FA, SB.

ICAO/IATA: UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S., (ISOPHORONE DIAMINE AND

3M Scotchkote Epoxy Ceramic Surfacers FG 512 (Mid Grey) (Kit)

DIETHYLENETRIAMINE), 8., III.

Component 2

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

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

R21/22	Harmful in contact with skin and if swallowed.
R34	Causes burns.
R43	May cause sensitisation by skin contact.
R62	Possible risk of impaired fertility.
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.

Copyright was modified.



Safety Data Sheet

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Document group:	28-0395-5	Version number:	3.06
Revision date:	16/04/2012	Supersedes date:	29/09/2011
Transportation version number:	5.00 (04/04/2012)		

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 Surfacers FG512 (Part B)

Product identification numbers

GR-2001-0814-4 GR-2001-0817-7 GR-2001-0820-1 GR-2001-0928-2 GR-2001-0932-4
GR-2001-3179-9

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

Corrosive.

Harmful.

Sensitising

Toxic for reproduction (Category 3).

2.2. Label elements

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

3M Scotchkote Epoxy Ceramic Surfacer FG512 (Part B)**Symbols**

C Corrosive.

Contains:

4,4'-Isopropylidenediphenol; Benzyl Alcohol; Diethylenetriamine; Isophorone Diamine; 2-Piperazin-1-ylethylamine; p-Tert-Butylphenol

Risk phrases

R34 Causes burns.
 R21/22 Harmful in contact with skin and if swallowed.
 R43 May cause sensitisation by skin contact.
 R62 Possible risk of impaired fertility.
 R52/53 Harmful 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.

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
Formaldehyde Polymer	Trade Secret		20 - 30	
Benzyl Alcohol	100-51-6	EINECS 202-859-9	20 - 30	Xn:R20-22 (EU) Acute Tox. 4, H332; Acute Tox. 4, H302 (CLP)
Isophorone Diamine	2855-13-2	EINECS 220-666-8	15 - 20	C:R34; Xn:R21-22; R43; R52/53 (EU) Acute Tox. 4, H312; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317; Aquatic Chronic 3, H412 (CLP)
Diethylenetriamine	111-40-0	EINECS 203-865-4	10 - 15	C:R34; Xn:R21-22; R43 (EU) Acute Tox. 3, H311; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1, H317 (CLP)
p-Tert-Butylphenol	98-54-4	EINECS 202-679-0	5 - 10	Xi:R37-38-41; R52 (Self Classified) Skin Irrit. 2, H315; Eye Dam. 1, H318; STOT SE 3, H335; Aquatic Chronic 3, H412 (Self

3M Scotchkote Epoxy Ceramic Surfacer FG512 (Part B)

				Classified)
4,4'-Isopropylidenediphenol	80-05-7	EINECS 201-245-8	5 - 10	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)
2-Piperazin-1-ylethylamine	140-31-8	EINECS 205-411-0	5 - 10	C:R34; Xn:R21-22; R43; R52/53 (EU) Acute Tox. 3, H311; Acute Tox. 4, H302; Skin Corr. 1B, H314; Skin Sens. 1B, H317; Aquatic Chronic 3, H412 (CLP)

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

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.

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.

Inhalation

Remove person to fresh air. If you feel unwell, 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 flammable liquids or gases such as dry chemical or carbon dioxide.

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.

Condition

During combustion.
During combustion.

3M Scotchkote Epoxy Ceramic Surfacer FG512 (Part B)

Oxides of nitrogen.

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

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

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 closed 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

Store in a well-ventilated place. Keep container tightly closed. Store away from heat. Keep from freezing. Store away from areas where product may come into contact with food or pharmaceuticals. Store away from acids. 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
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3M Scotchkote Epoxy Ceramic Surfacers FG512 (Part B)

Diethylenetriamine 111-40-0 Health and Safety Comm. (UK) TWA:4.3 mg/m³(1 ppm) Skin Notation

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
CELL: 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

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

The following protective clothing material(s) are recommended: Neoprene boots.
Coveralls - Disposable
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:
Fullface air-purifying respirator with organic vapor cartridges and P2 particulate prefilters.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Liquid.
Appearance/Odour	Ammoniacal odour; Amber colour
pH	> 8 [<i>Details: Alkaline</i>]
Boiling point/boiling range	>=200 °C
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	100 °C [<i>Test Method: Closed Cup</i>]
Autoignition temperature	>=400 °C
Flammable Limits(LEL)	<i>No data available.</i>
Flammable Limits(UEL)	<i>No data available.</i>
Vapour pressure	<=1,333.2 Pa [<i>@ 21 °C</i>]

3M Scotchkote Epoxy Ceramic Surfacer FG512 (Part B)

Relative density	1.010 [<i>Ref Std: WATER=1</i>]
Water solubility	Negligible
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>No data available.</i>
Vapour density	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Density	1.01 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 %

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

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>
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None known.	
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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.

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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:

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.

Skin contact

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. Corrosive (skin burns): Signs/symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction.

Inhalation

Allergic respiratory reaction: Signs/symptoms may include difficulty breathing, wheezing, cough, and tightness of chest. Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause target organ effects after inhalation.

Ingestion

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. Harmful if swallowed. May cause target organ effects after ingestion.

Target Organ Effects:

Central nervous system (CNS) depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Prolonged or repeated exposure may cause:

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.

Reproductive/Developmental Toxicity:

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

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		No test data available; calculated ATE1,198 mg/kg
Formaldehyde Polymer			No data available
Benzyl Alcohol	Dermal	Rabbit	LD50 2,000 mg/kg
Benzyl Alcohol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 9 mg/l
Benzyl Alcohol	Ingestion	Rat	LD50 1,230 mg/kg
Isophorone Diamine	Ingestion	Rat	LD50 1,030 mg/kg
Diethylenetriamine	Dermal	Rabbit	LD50 950 mg/kg
Diethylenetriamine	Ingestion	Rat	LD50 819 mg/kg
p-Tert-Butylphenol	Dermal	Rabbit	LD50 2,318 mg/kg
p-Tert-Butylphenol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 6 mg/l
p-Tert-Butylphenol	Ingestion	Rat	LD50 4,000 mg/kg

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4,4'-Isopropylidenediphenol	Dermal	Rabbit	LD50 > 2,000 mg/kg
4,4'-Isopropylidenediphenol	Ingestion	Rat	LD50 3,200 mg/kg
2-Piperazin-1-ylethylamine	Dermal	Rabbit	LD50 865 mg/kg
2-Piperazin-1-ylethylamine	Ingestion	Rat	LD50 1,470 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Formaldehyde Polymer		No data available
Benzyl Alcohol		Mild irritant
Isophorone Diamine		Corrosive
Diethylenetriamine		Corrosive
p-Tert-Butylphenol		No data available
4,4'-Isopropylidenediphenol		Minimal irritation
2-Piperazin-1-ylethylamine		No data available

Serious Eye Damage/Irritation

Name	Species	Value
Formaldehyde Polymer		No data available
Benzyl Alcohol		Moderate irritant
Isophorone Diamine		Corrosive
Diethylenetriamine		Corrosive
p-Tert-Butylphenol		No data available
4,4'-Isopropylidenediphenol		Severe irritant
2-Piperazin-1-ylethylamine		No data available

Skin Sensitisation

Name	Species	Value
Formaldehyde Polymer		No data available
Benzyl Alcohol		Some positive data exist, but the data are not sufficient for classification
Isophorone Diamine		Sensitising
Diethylenetriamine		Sensitising
p-Tert-Butylphenol		No data available
4,4'-Isopropylidenediphenol		Sensitising
2-Piperazin-1-ylethylamine		No data available

Photosensitisation

Name	Species	Value
4,4'-Isopropylidenediphenol		Sensitising

Respiratory Sensitisation

Name	Species	Value
Formaldehyde Polymer		No data available
Benzyl Alcohol		No data available
Isophorone Diamine		No data available
Diethylenetriamine		Sensitising
p-Tert-Butylphenol		No data available
4,4'-Isopropylidenediphenol		No data available
2-Piperazin-1-ylethylamine		No data available

Germ Cell Mutagenicity

Name	Route	Value
Formaldehyde Polymer		No data available
Benzyl Alcohol	In vivo	Not mutagenic
Benzyl Alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification

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Isophorone Diamine	In Vitro	Not mutagenic
Isophorone Diamine	In vivo	Not mutagenic
Diethylenetriamine	In Vitro	Not mutagenic
p-Tert-Butylphenol		No data available
4,4'-Isopropylidenediphenol	In vivo	Some positive data exist, but the data are not sufficient for classification
2-Piperazin-1-ylethylamine		No data available

Carcinogenicity

Name	Route	Species	Value
Formaldehyde Polymer			No data available
Benzyl Alcohol	Ingestion		Not carcinogenic
Isophorone Diamine			No data available
Diethylenetriamine	Dermal		Not carcinogenic
p-Tert-Butylphenol			No data available
4,4'-Isopropylidenediphenol	Ingestion		Some positive data exist, but the data are not sufficient for classification
2-Piperazin-1-ylethylamine			No data available

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Formaldehyde Polymer		No data available			
Benzyl Alcohol	Ingestion	Not toxic to reproduction and/or development		NOAEL 550 mg/kg/day	
Isophorone Diamine	Ingestion	Not toxic to reproduction and/or development		NOAEL 250 mg/kg/day	
Diethylenetriamine	Ingestion	Some positive reproductive/developmental data exist, but the data are not sufficient for classification		NOEL 30 mg/kg/day	
p-Tert-Butylphenol		No data available			
4,4'-Isopropylidenediphenol	Inhalation	Not toxic to reproduction and/or development		NOAEL 0.15 mg/l	
4,4'-Isopropylidenediphenol	Ingestion	Toxic to reproduction and/or development		LOAEL 50 mg/kg/day	
2-Piperazin-1-ylethylamine		No data available			

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Formaldehyde Polymer			No data available			
Benzyl Alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness			
Benzyl Alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not		Irritation Positive	

3M Scotchkote Epoxy Ceramic Surfacers FG512 (Part B)

			sufficient for classification			
Benzyl Alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness			
Isophorone Diamine	Inhalation	respiratory irritation	May cause respiratory irritation		Irritation Positive	
Diethylenetriamine	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive	
p-Tert-Butylphenol			No data available			
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	
2-Piperazin-1-ylethylamine			No data available			

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Formaldehyde Polymer			No data available			
Benzyl Alcohol	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification		NOEL 645 mg/kg/day	
Benzyl Alcohol	Ingestion	endocrine system muscles	Some positive data exist, but the data are not sufficient for classification		NOEL 400 mg/kg/day	
Benzyl Alcohol	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification		NOEL 645 mg/kg/day	
Benzyl Alcohol	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification		NOEL 400 mg/kg/day	
Isophorone Diamine	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure		LOAEL 0.002 mg/l	
Isophorone Diamine	Ingestion	blood liver	Some positive data exist, but the data are not sufficient for classification		NOAEL 20 mg/kg/day	
Isophorone	Ingestion	kidney and/or	Some positive		NOAEL 60	

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Diamine		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	
Diethylenetriamine	Ingestion	liver kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification		NOEL 80 mg/kg/day	
p-Tert-Butylphenol			No data available			
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	liver	Some positive data exist, but the data are not sufficient for classification		NOAEL 370 mg/kg/day	
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	heart	Some positive data exist, but the data are not sufficient for classification		NOEL 1,200 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	
2-Piperazine-1-ylethylamine			No data available			

Aspiration Hazard

Name	Value
Formaldehyde Polymer	Not an aspiration hazard
Benzyl Alcohol	Not an aspiration hazard

3M Scotchkote Epoxy Ceramic Surfacers FG512 (Part B)

Isophorone Diamine	Not an aspiration hazard
Diethylenetriamine	Not an aspiration hazard
p-Tert-Butylphenol	Not an aspiration hazard
4,4'-Isopropylidenediphenol	Not an aspiration hazard
2-Piperazin-1-ylethylamine	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 2: Toxic to aquatic life with long lasting effects.

Chronic aquatic hazard:

Not chronically toxic to aquatic life by GHS criteria.

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. Dispose of waste product in a permitted industrial waste facility.

3M Scotchkote Epoxy Ceramic Surfer FG512 (Part B)

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 04 09* Waste adhesives and sealants containing organic solvents or other dangerous substances

SECTION 14: Transportation information

GR-2001-0814-4, GR-2001-0817-7, GR-2001-0820-1, GR-2001-0928-2,
GR-2001-3179-9

ADR/RID: UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S., LIMITED QUANTITY, (ISOPHORONE DIAMINE AND DIETHYLENETRIAMINE), 8, III, (--), ADR Classification Code: C7.

IMDG-CODE: UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S., (ISOPHORONE DIAMINE AND DIETHYLENETRIAMINE), 8., III, IMDG-Code segregation code: 18- ALKALIS, LIMITED QUANTITY, EMS: FA,SB.

ICAO/IATA: UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S., (ISOPHORONE DIAMINE AND DIETHYLENETRIAMINE), 8., III.

GR-2001-0932-4

ADR/RID: UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S., LIMITED QUANTITY, (ISOPHORONE DIAMINE AND DIETHYLENETRIAMINE), 8, III, (--), ADR Classification Code: C7.

IMDG-CODE: UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S., (ISOPHORONE DIAMINE AND DIETHYLENETRIAMINE), 8., III, IMDG-Code segregation code: 18- ALKALIS, LIMITED QUANTITY, EMS: FA,SB.

ICAO/IATA: UN2735, POLYAMINES, LIQUID, CORROSIVE, N.O.S., (ISOPHORONE DIAMINE AND DIETHYLENETRIAMINE), 8., III.

SECTION 15: Regulatory information

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

Global inventory status

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

15.2. Chemical Safety Assessment

Not applicable

SECTION 16: Other information

List of relevant H statements

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

3M Scotchkote Epoxy Ceramic Surfacer FG512 (Part B)

H361f Suspected of damaging fertility.
H412 Harmful to aquatic life with long lasting effects.

List of relevant R-phrases

R20 Harmful by inhalation.
R21 Harmful in contact with skin.
R22 Harmful if swallowed.
R34 Causes burns.
R37 Irritating to respiratory system.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R43 May cause sensitisation by skin contact.
R52 Harmful to aquatic organisms.
R52/53 Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R62 Possible risk of impaired fertility.

Revision information:

Revision Changes:

Section 16: List of relevant R phrase information was modified.
Section 3: Composition/ Information of ingredients table was modified.
Section 2: Indication of danger information was modified.
Copyright 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.
Photosensitisation 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 13: Standard Phrase Category Waste GHS was modified.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. was modified.
Section 11: UN GHS Classification table heading was deleted.
Section 11: Photosensitisation table - UN GHS Classification 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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Document group:	28-0442-5	Version number:	3.05
Revision date:	09/05/2012	Supersedes date:	13/02/2012
Transportation version number:	4.00 (03/04/2012)		

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 Surfacer FG 512, Mid Grey (Part A)

Product identification numbers

GR-2001-0815-1 GR-2001-0818-5 GR-2001-0821-9 GR-2001-0930-8 GR-2001-0934-0
GR-2001-3178-1

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

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

3M Scotchkote Epoxy Ceramic Surfacer FG 512, Mid Grey (Part A)**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
Iron phosphide	12751-22-3	EINECS 235-798-1	35 - 55	
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)
Iron silicide	12022-95-6	EINECS 234-670-2	1 - 10	
Titanium	7440-32-6	EINECS 231-142-3	1 - 5	
Titanium dioxide	13463-67-7	EINECS 236-675-5	1 - 5	
Manganese	7439-96-5	EINECS 231-105-1	1 - 5	

3M Scotchkote Epoxy Ceramic Surfacers FG 512, Mid Grey (Part A)

Quartz	14808-60-7	EINECS 238-878-4	< 1	Xn:R48/20 (Vendor) STOT RE 1, H372 (Self Classified)
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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 fire fighting agent suitable for ordinary combustible material such as water or foam.

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

3M Scotchkote Epoxy Ceramic Surfacers FG 512, Mid Grey (Part A)

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 closed 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 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. Use personal protective equipment (eg. gloves, respirators...) as required. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.)

7.2. Conditions for safe storage including any incompatibilities

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

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	
Silica, crystalline (airborne particles of respirable size)	14808-60-7	Health and Safety Comm. (UK)	TWA(respirable):0.1 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.	TWA(as Mn):0.5 mg/m ³	

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(UK)

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

CELL: Ceiling

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,		Marine water sediments	0.5 mg/kg w.w.

3M Scotchkote Epoxy Ceramic Surfacer FG 512, Mid Grey (Part A)

oligomeric reaction products with 1-chloro-2,3-epoxypropane			
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Sewage Treatment Plant	10 mg/l

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

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

Skin/hand protection

Wear protective gloves.

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

Nitrile rubber.

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

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	Epoxy odour; Mid grey colour
pH	<i>No data available.</i>
Boiling point/boiling range	> 240 °C
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	>=380 °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	2.680 [<i>Ref Std: WATER=1</i>]
Water solubility	Negligible

3M Scotchkote Epoxy Ceramic Surfacer FG 512, Mid Grey (Part A)

Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>Not applicable.</i>
Vapour density	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Density	2.68 g/ml

9.2. Other information

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

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.

Strong acids.

Strong bases.

Strong oxidising agents.

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.

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

3M Scotchkote Epoxy Ceramic Surfacers FG 512, Mid Grey (Part A)

Signs and Symptoms of Exposure

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

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.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Toxicological Data

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No test data available; calculated ATE >5,000 mg/kg
Iron phosphide			No data available
Silicon Carbide	Ingestion		LD50 estimated to be 2,000 - 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
Iron silicide	Dermal		LD50 estimated to be > 5,000 mg/kg
Iron silicide	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
Quartz	Ingestion		LD50 estimated to be > 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Iron phosphide		No data available
Silicon Carbide		No data available

3M Scotchkote Epoxy Ceramic Surfacers FG 512, Mid Grey (Part A)

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Mild irritant
Phenol-formaldehyde polymer, glycidyl ether		Minimal irritation
Iron silicide		No data available
Titanium dioxide		No significant irritation
Manganese		No data available
Titanium		No data available
Quartz		No significant irritation

Serious Eye Damage/Irritation

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

Skin Sensitisation

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

Respiratory Sensitisation

Name	Species	Value
Iron phosphide		No data available
Silicon Carbide		No data available
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
Iron silicide		No data available
Titanium dioxide		No data available
Manganese		No data available
Titanium		No data available
Quartz		No data available

Germ Cell Mutagenicity

Name	Route	Value
Iron phosphide		No data available
Silicon Carbide		No data available
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
Iron silicide		No data available

3M Scotchkote Epoxy Ceramic Surfacers FG 512, Mid Grey (Part A)

Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	Ingestion	Not mutagenic
Manganese		No data available
Titanium		No data available
Quartz	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Iron phosphide			No data available
Silicon Carbide			No data available
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
Iron silicide			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
Quartz	Inhalation		Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Iron phosphide		No data available			
Silicon Carbide		No data available			
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
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			
Iron silicide		No data available			
Titanium dioxide		No data available			
Manganese		No data available			

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Titanium		No data available			
Quartz		No data available			

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Iron phosphide			No data available			
Silicon Carbide			No data available			
Phenol-formaldehyde polymer, glycidyl ether	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive	
Iron silicide			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			
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
Iron phosphide			No data available			
Silicon Carbide	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification		HHA	
4,4'-Isopropylidene ediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Dermal	liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 1,000 mg/kg/day	2 years
4,4'-Isopropylidene ediphenol, 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'-Isopropylidene ediphenol,	Ingestion	auditory system heart endocrine	All data are negative	Rat	NOAEL 1,000 mg/kg/day	28 days

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oligomeric reaction products with 1-chloro-2,3-epoxypropane		system hematopoietic system liver eyes kidney and/or bladder				
Phenol-formaldehyde polymer, glycidyl ether			No data available			
Iron silicide			No data available			
Titanium dioxide	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification		NOEL 10 mg/m3	
Titanium dioxide	Inhalation	pulmonary fibrosis	All data are negative		NOAEL N/A	
Manganese			No data available			
Titanium			No data available			
Quartz	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure		NOAEL N/A	

Aspiration Hazard

Name	Value
Iron phosphide	Not an aspiration hazard
Silicon Carbide	Not an aspiration hazard
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
Iron silicide	Not an aspiration hazard
Titanium dioxide	Not an aspiration hazard
Manganese	Not an aspiration hazard
Titanium	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 3: Harmful to aquatic life with long lasting effects.

No product test data available.

No component test data available.

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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

Incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Empty drums/barrels/containers used for transporting and handling hazardous chemicals (chemical substances/mixtures/preparations classified as hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

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-2001-0815-1, GR-2001-0821-9, GR-2001-0930-8, GR-2001-0934-0

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

GR-2001-0818-5, GR-2001-3178-1

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

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GLYCIDYL ETHER), 9., III, (E), ENVIRONMENTALLY HAZARDOUS, ADR Classification Code: M7.
IMDG-CODE: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER), (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), 9., III, EMS: FA,SF.
ICAO/IATA: UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN 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>
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 Japan Chemical Substance 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 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

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H372	Causes damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

List of relevant R-phrases

R36	Irritating to eyes.
R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
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.

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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: Health Effects - Skin information was modified.
Section 6: Accidental release clean-up information was modified.
Section 8: 8.1. Derived no effect level (DNEL) table heading was added.
Section 8: 8.1. Predicted no effect concentrations (PNEC) table heading was added.
Section 8: 8.1. Derived no effect level (DNEL) table ingredient column heading was added.
Section 8: 8.1. Derived no effect level (DNEL) table population column heading was added.
Section 8: 8.1. Derived no effect level (DNEL) table human exposure pattern column heading was added.
Section 8: 8.1. Derived no effect level (DNEL) table DNEL column heading was added.
Section 8: DNEL table row was added.
Section 8: 8.1. Predicted no effect concentrations (PNEC) table ingredient column heading was added.
Section 8: 8.1. Predicted no effect concentrations (PNEC) table compartment column heading was added.
Section 8: 8.1. Predicted no effect concentrations (PNEC) table PNEC column heading was added.
Section 8: PNEC table row was added.
Section 8: 8.1. Derived no effect level (DNEL) table Degradation Product column heading was added.
Section 8: 8.1. Predicted no effect concentrations (PNEC) table Degradation Product column heading was added.
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