



Safety Data Sheet

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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 CR 511 (N) Pt A (Grey)

Product identification numbers

GR-2001-4401-6 GR-2001-4405-7

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

Irritant; Xi; R36/38

Sensitizing; R43

Dangerous for the environment; N; R51/53

For full text of R phrases, see Section 16.

2.2. Label elements

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

3M Scotchkote Epoxy Ceramic Surfacer CR 511 (N) Pt A (Grey)**Symbol(s)**

Irritant

Dangerous
for the
environment**Contains:**

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane; Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives; 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
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4		30 - 35	N:R51/53 (Vendor) R43 (Self Classified) Aquatic Chronic 2, H411 (Vendor) Skin Sens. 1, H317 (Self Classified)
Silicon Carbide	409-21-2	EINECS 206-991-8	15 - 20	
Barium Sulfate	7727-43-7	EINECS 231-784-4	15 - 20	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	NLP 500-033-5	10 - 15	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 dioxide	13463-67-7	EINECS 236-675-5	10 - 15	
Oxirane, mono[(C10-16-alkyloxy)methyl]	68081-84-5	EINECS 268-	1 - 10	Xi:R36-38; R43 (Vendor)

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derivatives		358-2		Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317 (Vendor)
Non-hazardous ingredients	Mixture		1 - 5	
Quartz	14808-60-7	EINECS 238-878-4	< 1	Xn:R48/20 (Vendor) STOT RE 1, H372 (Self Classified)
Carbon black	1333-86-4	EINECS 215-609-9	< 1	

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

Eye contact

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

If swallowed

Rinse mouth. If you feel unwell, get medical attention.

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

See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required

Not applicable

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

None inherent in this product.

Hazardous Decomposition or By-Products

Substance

Aldehydes.

Carbon monoxide.

Carbon dioxide.

Condition

During combustion.

During combustion.

During combustion.

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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. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and 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. 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
Carbon black	1333-86-4	Health and Safety Comm. (UK)	TWA: 3.5 mg/m ³ ; STEL: 7 mg/m ³	

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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
Barium Sulfate	7727-43-7	Health and Safety Comm. (UK)	TWA(as inhalable dust):10 mg/m ³ ;TWA(as respirable dust):4 mg/m ³

Health and Safety Comm. (UK) : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/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. Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect vented goggles.

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. 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. An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours and particulates
Half facepiece or full facepiece air-purifying respirator suitable for organic vapours

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

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Physical state	Liquid.
Specific Physical Form:	Thixotropic liquid.
Appearance/Odour	Faint epoxy odour; Grey colour
Odour threshold	<i>No data available.</i>
pH	<i>No data available.</i>
Boiling point/boiling range	> 240 °C
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	240 °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	≤13.3 Pa
Relative density	1.720 [<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>No data available.</i>
Vapour density	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	<i>No data available.</i>
Density	1.72 g/ml

9.2. Other information

Volatile organic compounds (VOC)	0 g/l [<i>Details: Part A</i>]
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

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buildup.
Strong acids.
Strong bases.
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance

Condition

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

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

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

Skin contact

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye contact

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

Ingestion

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

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

Toxicological Data

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		Data not available or insufficient for classification; calculated ATE >5,000 mg/kg
Phenol-formaldehyde polymer, glycidyl ether	Dermal	Rabbit	LD50 > 6,000 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
Barium Sulfate	Ingestion	Rat	LD50 > 15,000 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-	Rat	LC50 > 6.82 mg/l

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	Dust/Mist (4 hours)		
Titanium dioxide	Ingestion	Rat	LD50 > 10,000 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
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives	Dermal		LD50 estimated to be > 5,000 mg/kg
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives	Ingestion	Rat	LD50 > 5,000 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg
Quartz	Dermal		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
Phenol-formaldehyde polymer, glycidyl ether	Rabbit	Minimal irritation
Barium Sulfate		Data not available or insufficient for classification
Silicon Carbide		Data not available or insufficient for classification
Titanium dioxide	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Rabbit	Mild irritant
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives		Data not available or insufficient for classification
Carbon black	Rabbit	No significant irritation
Quartz		No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Phenol-formaldehyde polymer, glycidyl ether	Rabbit	Mild irritant
Barium Sulfate	Rabbit	No significant irritation
Silicon Carbide		Data not available or insufficient for classification
Titanium dioxide	Rabbit	No significant irritation
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Rabbit	Moderate irritant
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives		Data not available or insufficient for classification
Carbon black	Rabbit	No significant irritation
Quartz		Data not available or insufficient for classification

Skin Sensitisation

Name	Species	Value
Phenol-formaldehyde polymer, glycidyl ether	Human and animal	Sensitising
Barium Sulfate		Data not available or insufficient for classification
Silicon Carbide		Data not available or insufficient for classification
Titanium dioxide	Human and animal	Not sensitizing
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Human and animal	Sensitising
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives		Data not available or insufficient for classification
Carbon black		Data not available or insufficient for classification
Quartz		Data not available or insufficient for classification

Respiratory Sensitisation

Name	Species	Value
Phenol-formaldehyde polymer, glycidyl ether		Data not available or insufficient for classification
Barium Sulfate		Data not available or insufficient for classification
Silicon Carbide		Data not available or insufficient for classification
Titanium dioxide		Data not available or insufficient for classification
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
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives		Data not available or insufficient for classification

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Carbon black		Data not available or insufficient for classification
Quartz		Data not available or insufficient for classification

Germ Cell Mutagenicity

Name	Route	Value
Phenol-formaldehyde polymer, glycidyl ether	In Vitro	Some positive data exist, but the data are not sufficient for classification
Barium Sulfate		Data not available or insufficient for classification
Silicon Carbide		Data not available or insufficient for classification
Titanium dioxide	In Vitro	Not mutagenic
Titanium dioxide	In vivo	Not mutagenic
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
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives		Data not available or insufficient for classification
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification
Quartz	In Vitro	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

Carcinogenicity

Name	Route	Species	Value
Phenol-formaldehyde polymer, glycidyl ether			Data not available or insufficient for classification
Barium Sulfate			Data not available or insufficient for classification
Silicon Carbide			Data not available or insufficient for classification
Titanium dioxide	Ingestion	Multiple animal species	Not carcinogenic
Titanium dioxide	Inhalation	Rat	Carcinogenic.
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
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives			Data not available or insufficient for classification
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
Quartz	Inhalation	Human and animal	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
Phenol-formaldehyde polymer, glycidyl ether		Data not available or insufficient for classification			
Barium Sulfate		Data not available or insufficient for classification			
Silicon Carbide		Data not available or insufficient for classification			
Titanium dioxide		Data not available or insufficient for classification			
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	Ingestion	Not toxic to development	Rat	NOAEL 750	2 generation

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reaction products with 1-chloro-2,3-epoxypropane				mg/kg/day	
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives			Data not available or insufficient for classification		
Carbon black			Data not available or insufficient for classification		
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
Barium Sulfate			Data not available or insufficient for classification			
Silicon Carbide			Data not available or insufficient for classification			
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives			Data not available or insufficient for classification			

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Phenol-formaldehyde polymer, glycidyl ether			Data not available or insufficient for classification			
Barium Sulfate	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
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	Rat	LOAEL 0.010 mg/l	2 years
Titanium dioxide	Inhalation	pulmonary fibrosis	All data are negative	Human	NOAEL Not available	occupational exposure
4,4'-Isopropylidenediphenol, 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'-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
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives			Data not available or insufficient for classification			
Carbon black	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Quartz	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure

Aspiration Hazard

Name	Value
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Phenol-formaldehyde polymer, glycidyl ether	Not an aspiration hazard
Barium Sulfate	Not an aspiration hazard
Silicon Carbide	Not an aspiration hazard
Titanium dioxide	Not an aspiration hazard
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Not an aspiration hazard
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives	Not an aspiration hazard
Carbon black	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

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Ricefish	Experimental	96 hours	LC50	1.41 mg/l
Barium Sulfate	7727-43-7	Fish other	Experimental	96 hours	LC50	>100 mg/l
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4	Golden Orfe	Laboratory	96 hours	LC50	5.7 mg/l
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4	Water flea	Laboratory	48 hours	EC50	3.5 mg/l
Titanium dioxide	13463-67-7	Water flea	Experimental	48 hours	EC50	>100 mg/l
Titanium dioxide	13463-67-7	Sheepshead Minnow	Experimental	96 hours	LC50	>240 mg/l
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Water flea	Experimental	21 days	NOEC	0.3 mg/l
Titanium	13463-67-7	Fish	Experimental	30 days	NOEC	>=1,000 mg/l

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dioxide						
Titanium dioxide	13463-67-7	Water flea	Experimental	30 days	NOEC	3 mg/l
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives	68081-84-5		Data not available or insufficient for classification			
Carbon black	1333-86-4		Data not available or insufficient for classification			
Quartz	14808-60-7		Data not available or insufficient for classification			
Silicon Carbide	409-21-2		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4	Laboratory Biodegradation	28 days	CO2 evolution	10 % weight	OECD 301B - Modified sturm or CO2
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives	68081-84-5	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Laboratory Hydrolysis		Hydrolytic half-life	<2 days (t 1/2)	Other methods
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Laboratory Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
Titanium dioxide	13463-67-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Silicon Carbide	409-21-2	Data not available or	N/A	N/A	N/A	N/A

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		insufficient for classification				
Barium Sulfate	7727-43-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Quartz	14808-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Carbon black	1333-86-4	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
Phenol-formaldehyde polymer, glycidyl ether	28064-14-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Oxirane, mono[(C10-16-alkyloxy)methyl] derivatives	68081-84-5	Experimental Bioconcentration		Log Kow	3.77	Other methods
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Laboratory BCF - Other	28 days	Bioaccumulation factor	<42	Other methods
Titanium dioxide	13463-67-7	Experimental BCF - Other	42 days	Bioaccumulation factor	9.6	Other methods
Silicon Carbide	409-21-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Barium Sulfate	7727-43-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Quartz	14808-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Carbon black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

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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

See Section 11.1 Information on toxicological effects

Incinerate in a permitted waste incineration facility. Dispose of waste product in a permitted industrial waste 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-2001-4401-6, GR-2001-4405-7

ADR/RID: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. LIMITED QUANTITY, (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER), 9., III, (E), ADR Classification Code: M6.

IMDG-CODE: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER), 9., III, LIMITED QUANTITY, EMS: FA, SF.

ICAO/IATA: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (PHENOL-FORMALDEHYDE POLYMER GLYCIDYL ETHER), (4,4'-ISOPROPYLIDENEDIPHENOL-EPICHLOROXYDRIN POLYMER), 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>
Carbon black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer
Quartz	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer

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Titanium dioxide

13463-67-7

Grp. 2B: Possible human
carc. International Agency
for Research on Cancer

Global inventory status

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. Contact 3M for more information. The components of this material are in compliance with the China "Measures on Environmental Management of New Chemical Substance". Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of 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

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.
R36/38	Irritating to eyes and skin.
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 3: Composition/ Information of ingredients table information was modified.

Section 12: Persistence and Degradability information information was modified.

Section 12: Bioaccumulative potential information information was modified.

Section 8: Personal Protection - Eye information information was modified.

Section 8: Personal Protection - Skin/hand information information was modified.

Section 8: Personal Protection - Respiratory Information information was modified.

Section 13: 13.1. Waste disposal note information was modified.

Section 8: Eye/face protection text information was deleted.

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

Section 8: Skin protection - protective clothing text information was deleted.

Section 8: mg/m³ key information was deleted.

Section 8: ppm key information 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

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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