



Safety Data Sheet

Copyright, 2020, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document group:	30-3682-9	Version number:	4.02
Revision date:	24/03/2020	Supersedes date:	19/11/2018
Transportation version number:	5.01 (24/03/2020)		

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™ Aerospace Sealant AC-251 Black B-2

Product Identification Numbers

70-0052-0957-5 70-0052-4364-0

7010372247 7100169376

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

Identified uses

Sealant.

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
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:

30-3448-5, 30-3193-7

TRANSPORTATION INFORMATION

70-0052-0957-5

70-0052-4364-0

ADR/RID: UN3082, NOT RESTRICTED AS PER SPECIAL PROVISION 375, ENVIRONMENTALLY HAZARDOUS

SUBSTANCE EXEMPTION, (FERBAM), (TERPHENYL), III, --.

IMDG-CODE: UN3082, NOT RESTRICTED AS PER IMDG CODE 2.10.2.7, MARINE POLLUTANT EXCEPTION, (FERBAM), (TERPHENYL), III, IMDG-Code segregation code: NONE, EMS: --.

ICAO/IATA: UN3082, NOT RESTRICTED AS PER SPECIAL PROVISION A197, ENVIRONMENTALLY HAZARDOUS SUBSTANCE EXCEPTION, (FERBAM), (TERPHENYL), III.

KIT LABEL

2.1. Classification of the substance or mixture

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

Acute Toxicity, Category 4 - Acute Tox. 4; H302

Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319

Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315

Reproductive Toxicity, Category 1A - Repr. 1A; H360

Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373

Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400

Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

DANGER.

Symbols:

GHS07 (Exclamation mark) | GHS08 (Health Hazard) | GHS09 (Environment) |

Pictograms



Contains:

manganese dioxide; lead powder; [particle diameter < 1 mm]

HAZARD STATEMENTS:

H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H360D May damage the unborn child.

H373 May cause damage to organs through prolonged or repeated exposure:
nervous system |

H410 Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201 Obtain special instructions before use.
P260A Do not breathe vapours.
P280E Wear protective gloves.

Response:

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/attention.

Disposal:

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

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H360D May damage the unborn child.

<=125 ml Precautionary statements

Prevention:

P201 Obtain special instructions before use.
P280E Wear protective gloves.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/attention.

SUPPLEMENTAL INFORMATION:

Supplemental Precautionary Statements:

Restricted to professional users.

Refer to Safety Data Sheet for component % unknown values (www.3M.com/msds).

Revision information:

Label: CLP Ingredients - kit components information was modified.
Section 1: Product identification numbers information was modified.
Section 01: SAP Material Numbers information was modified.



Safety Data Sheet

Copyright,2020, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilizing 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document group:	30-3193-7	Version number:	6.00
Revision date:	03/07/2020	Supersedes date:	21/01/2020
Transportation version number:	1.00 (12/08/2013)		

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 Aerospace Sealant AC-251 Black B-2 Catalyst

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

Identified uses

Hardener

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
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

CLP REGULATION (EC) No 1272/2008

The health and environmental classifications of this material have been derived using the calculation method, except in cases where test data are available or the physical form impacts classification. Classification(s) based on test data or physical form are noted below, if applicable.

CLASSIFICATION:

Acute Toxicity, Category 4 - Acute Tox. 4; H302
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Reproductive Toxicity, Category 1A - Repr. 1A; H360
Specific Target Organ Toxicity-Repeated Exposure, Category 2 - STOT RE 2; H373
Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD

DANGER.

Symbols:

GHS07 (Exclamation mark) | GHS08 (Health Hazard) | GHS09 (Environment) |

Pictograms



Ingredients:

Ingredient	CAS Nbr	EC No.	% by Wt
manganese dioxide	1313-13-9	215-202-6	30 - 50
lead powder; [particle diameter < 1 mm]	7439-92-1	231-100-4	<= 0.06

HAZARD STATEMENTS:

H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H360D	May damage the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure: nervous system
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P201	Obtain special instructions before use.
P260A	Do not breathe vapours.
P280E	Wear protective gloves.

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/attention.

Disposal:

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

For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

<=125 ml Hazard statements

H360D	May damage the unborn child.
-------	------------------------------

3M Aerospace Sealant AC-251 Black B-2 Catalyst**<=125 ml Precautionary statements****Prevention:**

P201 Obtain special instructions before use.
 P280E Wear protective gloves.

Response:

P308 + P313 IF exposed or concerned: Get medical advice/attention.

SUPPLEMENTAL INFORMATION:**Supplemental Precautionary Statements:**

Restricted to professional users.

8% of the mixture consists of components of unknown acute oral toxicity.

Contains 10% of components with unknown hazards to the aquatic environment.

Notes on labelling

Respirable Quartz Silica is not available for exposure

2.3. Other hazards

Contains a substance that meets the criteria for vPvB according to Regulation (EC) No 1907/2006, Annex XIII

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
manganese dioxide	1313-13-9	215-202-6	01-2119452801-43	30 - 50	Acute Tox. 4, H332; Acute Tox. 4, H302 EUH031; STOT RE 2, H373
Terphenyl, hydrogenated	61788-32-7	262-967-7	01-2119488183-33	30 - 45	Aquatic Chronic 2, H411
Polyphenyls, quater- and higher, partially hydrogenated	68956-74-1	273-316-1		0 - 10	Substance not classified as hazardous
Terphenyl	26140-60-3	247-477-3		1 - 5	Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=10
Aluminium oxide	1344-28-1	215-691-6	01-2119529248-35	0 - 5	Substance with an occupational exposure limit
Water	7732-18-5	231-791-2		0.1 - 3	Substance not classified as hazardous
Carbon black	1333-86-4	215-609-9	01-2119384822-32	0.1 - 3	Substance with an occupational exposure limit
Diiron trioxide	1309-37-1	215-168-2		0 - 3	Substance with an occupational exposure limit
Quartz	14808-60-7	238-878-4		0.1 - 3	STOT RE 1, H372

3M Aerospace Sealant AC-251 Black B-2 Catalyst

ferbam (ISO)	14484-64-1	238-484-2		0.1 - 1	Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335; Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=100 Acute Tox. 2, H330
sodium hydroxide	1310-73-2	215-185-5		0 - 1	Skin Corr. 1A, H314 Met. Corr. 1, H290
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.- (NONYLPHENYL)-.OMEGA.-HYDROXY-, BRANCHED, PHOSPHATES	68412-53-3			0.1 - 0.3	Skin Irrit. 2, H315; Eye Dam. 1, H318
lead powder; [particle diameter < 1 mm]	7439-92-1	231-100-4		<= 0.06	Repr. 1A, H360FD; Lact., H362 STOT SE 2, H371; STOT RE 2, H373; Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=10

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

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

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. 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

3M Aerospace Sealant AC-251 Black B-2 Catalyst

None inherent in this product.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Hydrocarbons.	During combustion.
Carbon monoxide	During combustion.
Carbon dioxide.	During combustion.
Oxides of nitrogen.	During combustion.
Oxides of Lead	During combustion.
Oxides of sulphur.	During combustion.

5.3. Advice for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

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. 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 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

Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Avoid contact during pregnancy/while nursing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

Store away from heat. Store away from acids.

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

3M Aerospace Sealant AC-251 Black B-2 Catalyst

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Diiron trioxide	1309-37-1	UK HSC	TWA(respirable):4 mg/m ³ ;TWA(Inhalable):10 mg/m ³ ;TWA(as Fe, fume):5 mg/m ³ ;STEL(as Fe, fume):10 mg/m ³	
sodium hydroxide	1310-73-2	UK HSC	STEL:2 mg/m ³	
Manganese, inorganic compounds	1313-13-9	UK HSC	TWA(as Mn, respirable fraction):0.05 mg/m ³ ;TWA(as Mn):0.5 mg/m ³	
Carbon black	1333-86-4	UK HSC	TWA: 3.5 mg/m ³ ; STEL: 7 mg/m ³	
Aluminium oxide	1344-28-1	UK HSC	TWA(as respirable dust):4 mg/m ³ ;TWA(as inhalable dust):10 mg/m ³	
Quartz	14808-60-7	UK HSC	TWA(respirable):0.1 mg/m ³	
Terphenyl	26140-60-3	UK HSC	STEL:4.8 mg/m ³ (0.5 ppm)	
Terphenyl, hydrogenated	61788-32-7	UK HSC	TWA:19 mg/m ³ (2 ppm);STEL:48 mg/m ³ (5 ppm)	
lead powder; [particle diameter < 1 mm]	7439-92-1	UK HSC	TWA(as Pb):0.15 mg/m ³	

UK HSC : UK Health and Safety Commission

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

Derived no effect level (DNEL)

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
manganese dioxide		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	0.004 mg/kg bw/d
manganese dioxide		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	0.2 mg/m ³
Terphenyl, hydrogenated		Worker	Dermal, Long-term exposure (8 hours), Local effects	0.2 mg/cm ²
Terphenyl, hydrogenated		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	46.3 mg/kg bw/d
Terphenyl, hydrogenated		Worker	Inhalation, Long-term exposure (8 hours), Local effects	83.8 mg/m ³
Terphenyl, hydrogenated		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	8.38 mg/m ³

Predicted no effect concentrations (PNEC)

Ingredient	Degradation	Compartment	PNEC
-------------------	--------------------	--------------------	-------------

3M Aerospace Sealant AC-251 Black B-2 Catalyst

	Product		
manganese dioxide		Agricultural soil	0.025 mg/kg d.w.
manganese dioxide		Freshwater	0.001 mg/l
manganese dioxide		Freshwater sediments	0.037 mg/kg d.w.
manganese dioxide		Marine water	0.001 mg/l
manganese dioxide		Marine water sediments	0.004 mg/kg d.w.
manganese dioxide		Sewage Treatment Plant	100 mg/l
Terphenyl, hydrogenated		Agricultural soil	12.6 mg/kg d.w.
Terphenyl, hydrogenated		Concentration in freshwater fish for secondary poisoning	2.22 mg/kg w.w.
Terphenyl, hydrogenated		Freshwater sediments	63.2 mg/kg d.w.
Terphenyl, hydrogenated		Intermittent releases to water	13.4 mg/l
Terphenyl, hydrogenated		Marine water sediments	6.32 mg/kg d.w.
Terphenyl, hydrogenated		Sewage Treatment Plant	10.3 mg/l

Recommended monitoring procedures: Information on recommended monitoring procedures can be obtained from UK HSC

8.2. Exposure controls

In addition, refer to the annex for more information.

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

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.

Applicable Norms/Standards

Use eye protection conforming to EN 166

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

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

Material	Thickness (mm)	Breakthrough Time
Butyl rubber.	0.5	> 8 hours
Neoprene.	0.5	> 8 hours
Nitrile rubber.	0.35	> 8 hours

The glove data presented are based on the substance driving dermal toxicity and the conditions present at the time of testing. Breakthrough time may be altered when the glove is subjected to use conditions that place additional stress on the glove.

Applicable Norms/Standards

Use gloves tested to EN 374

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

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136: filter types A & P

8.2.3. Environmental exposure controls

Refer to Annex

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties****Appearance****Physical state**

Liquid.

Colour

Black

Odor

Slight Odor

Odour threshold*No data available.***pH***Not applicable.***Boiling point/boiling range***No data available.***Melting point***Not applicable.***Flammability (solid, gas)**

Not applicable.

Explosive properties

Not classified

Oxidising properties

Not classified

Flash point ≥ 93.3 °C [Test Method: Closed Cup]**Autoignition temperature***No data available.***Flammable Limits(LEL)***No data available.***Flammable Limits(UEL)***No data available.***Vapour pressure***No data available.***Relative density**

1.59 [Ref Std: WATER=1]

Water solubility

Slight (less than 10%)

Solubility- non-water*No data available.***Partition coefficient: n-octanol/water***No data available.***Evaporation rate***No data available.***Vapour density** ≥ 1 [Ref Std: AIR=1]**Decomposition temperature***No data available.***Viscosity***No data available.***Density**

1.59 g/ml

9.2. Other information**EU Volatile Organic Compounds***No data available.***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

Heat.

10.5 Incompatible materials

Reducing agents.

Strong acids.

10.6 Hazardous decomposition products

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

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation

Respiratory tract irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain. May cause additional health effects (see below).

Skin contact

May be harmful in contact with skin. Skin Irritation: Signs/symptoms may include localised redness, swelling, itching, dryness, cracking, blistering, and pain.

Eye contact

Severe eye irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion

May be harmful if swallowed.

Gastrointestinal irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhoea. May cause additional health effects (see below).

Additional Health Effects:

Prolonged or repeated exposure may cause target organ effects:

Neurological effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and changes in blood pressure and heart rate. Respiratory effects:

3M Aerospace Sealant AC-251 Black B-2 Catalyst

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 may interfere with lactation or be harmful to breastfed children.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Dermal		No data available; calculated ATE2,000 - 5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE2,000 - 5,000 mg/kg
manganese dioxide	Dermal	Rat	LD50 2,000 mg/kg
manganese dioxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 1.5 mg/l
manganese dioxide	Ingestion	Rat	LD50 > 2,197 mg/kg
Terphenyl, hydrogenated	Dermal	Rabbit	LD50 6,800 mg/kg
Terphenyl, hydrogenated	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 11.1 mg/l
Terphenyl, hydrogenated	Ingestion	Rat	LD50 > 10,000 mg/kg
Terphenyl	Dermal	Rabbit	LD50 > 5,000 mg/kg
Terphenyl	Inhalation-Dust/Mist (4 hours)	Rat	LD50 > 3.8 mg/l
Terphenyl	Ingestion	Rat	LD50 2,304 mg/kg
Aluminium oxide	Dermal		LD50 estimated to be > 5,000 mg/kg
Aluminium oxide	Inhalation-Dust/Mist (4 hours)	Rat	LC50 > 2.3 mg/l
Aluminium oxide	Ingestion	Rat	LD50 > 5,000 mg/kg
Quartz	Dermal		LD50 estimated to be > 5,000 mg/kg
Quartz	Ingestion		LD50 estimated to be > 5,000 mg/kg
Diiron trioxide	Dermal	Not available	LD50 3,100 mg/kg
Diiron trioxide	Ingestion	Not available	LD50 3,700 mg/kg
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 mg/kg
ferbam (ISO)	Dermal	Rabbit	LD50 > 4,000 mg/kg
ferbam (ISO)	Inhalation-Dust/Mist (4 hours)	Rat	LC50 0.4 mg/l
ferbam (ISO)	Ingestion	Rat	LD50 1,130 mg/kg
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.- (NONYLPHENYL)-.OMEGA .-HYDROXY-, BRANCHED, PHOSPHATES	Ingestion	Rat	LD50 4,450
lead powder; [particle diameter < 1 mm]	Dermal		LD50 estimated to be 2,000 - 5,000 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
manganese dioxide	Rabbit	No significant irritation
Terphenyl, hydrogenated	Rabbit	No significant irritation
Terphenyl	Rabbit	No significant irritation
Aluminium oxide	Rabbit	No significant irritation

3M Aerospace Sealant AC-251 Black B-2 Catalyst

Diiron trioxide	Rabbit	No significant irritation
Quartz	Professional judgement	No significant irritation
Carbon black	Rabbit	No significant irritation
sodium hydroxide	Rabbit	Corrosive
ferbam (ISO)	Rabbit	No significant irritation
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(NONYLPHENYL)-.OMEGA.-HYDROXY-, BRANCHED, PHOSPHATES	Rabbit	Irritant
lead powder; [particle diameter < 1 mm]	similar compounds	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
manganese dioxide	Rabbit	Mild irritant
Terphenyl, hydrogenated	Rabbit	No significant irritation
Terphenyl	Rabbit	No significant irritation
Aluminium oxide	Rabbit	No significant irritation
Diiron trioxide	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
sodium hydroxide	Rabbit	Corrosive
ferbam (ISO)	Rabbit	Severe irritant
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(NONYLPHENYL)-.OMEGA.-HYDROXY-, BRANCHED, PHOSPHATES	Rabbit	Corrosive
lead powder; [particle diameter < 1 mm]	similar compounds	Mild irritant

Skin Sensitisation

Name	Species	Value
manganese dioxide	Mouse	Not classified
Terphenyl, hydrogenated	Human	Not classified
Diiron trioxide	Human	Not classified
sodium hydroxide	Human	Not classified
ferbam (ISO)	Guinea pig	Not classified
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(NONYLPHENYL)-.OMEGA.-HYDROXY-, BRANCHED, PHOSPHATES	Human	Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
manganese dioxide	In Vitro	Some positive data exist, but the data are not sufficient for classification
manganese dioxide	In vivo	Some positive data exist, but the data are not sufficient for classification
Terphenyl, hydrogenated	In vivo	Not mutagenic
Terphenyl	In Vitro	Not mutagenic
Terphenyl	In vivo	Not mutagenic
Aluminium oxide	In Vitro	Not mutagenic
Diiron trioxide	In Vitro	Not mutagenic
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
Carbon black	In Vitro	Not mutagenic

3M Aerospace Sealant AC-251 Black B-2 Catalyst

Carbon black	In vivo	Some positive data exist, but the data are not sufficient for classification
sodium hydroxide	In Vitro	Not mutagenic
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.-(NONYLPHENYL)-.OMEGA.-HYDROXY-, BRANCHED, PHOSPHATES	In Vitro	Not mutagenic
lead powder; [particle diameter < 1 mm]	In vivo	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Aluminium oxide	Inhalation	Rat	Not carcinogenic
Diiron trioxide	Inhalation	Human	Some positive data exist, but the data are not sufficient for classification
Quartz	Inhalation	Human and animal	Carcinogenic.
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.
ferbam (ISO)	Ingestion	Rat	Not carcinogenic
lead powder; [particle diameter < 1 mm]	Not specified.	official classification	Carcinogenic.

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
manganese dioxide	Inhalation	Not classified for female reproduction	Rat	NOAEL 20 mg/m ³	2 generation
manganese dioxide	Inhalation	Not classified for male reproduction	Rabbit	LOAEL 250 mg/kg	1 days
manganese dioxide	Ingestion	Not classified for development	Rat	LOAEL 354 mg/kg/day	premating into lactation
manganese dioxide	Inhalation	Not classified for development	Rat	LOAEL 61 mg/m ³	gestation into lactation
Terphenyl, hydrogenated	Ingestion	Not classified for female reproduction	Rat	NOAEL 81 mg/kg/day	2 generation
Terphenyl, hydrogenated	Ingestion	Not classified for male reproduction	Rat	NOAEL 62 mg/kg/day	2 generation
Terphenyl, hydrogenated	Ingestion	Not classified for development	Rat	NOAEL 500 mg/kg/day	2 generation
ferbam (ISO)	Ingestion	Not classified for female reproduction	Rat	NOAEL 25 mg/kg/day	3 generation
ferbam (ISO)	Ingestion	Not classified for male reproduction	Rat	NOAEL 25 mg/kg/day	3 generation
ferbam (ISO)	Ingestion	Not classified for development	Rat	NOAEL 11 mg/kg/day	during organogenesis
lead powder; [particle diameter < 1 mm]	Not specified.	Toxic to female reproduction	Human	LOAEL 10 ug/dl blood	
lead powder; [particle diameter < 1 mm]	Not specified.	Toxic to male reproduction	Human	LOAEL 37 ug/dl blood	
lead powder; [particle diameter < 1 mm]	Not specified.	Toxic to development	Human	NOAEL Not available	

Lactation

Name	Route	Species	Value
ferbam (ISO)	Ingestion	Rat	Causes effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

3M Aerospace Sealant AC-251 Black B-2 Catalyst

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
sodium hydroxide	Inhalation	respiratory irritation	May cause respiratory irritation	Human	NOAEL Not available	
lead powder; [particle diameter < 1 mm]	Ingestion	nervous system	May cause damage to organs	Human	LOAEL 90 ug/dl blood	poisoning and/or abuse
lead powder; [particle diameter < 1 mm]	Ingestion	heart	Not classified	Human	NOAEL Not available	poisoning and/or abuse

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
manganese dioxide	Inhalation	respiratory system	Causes damage to organs through prolonged or repeated exposure	Monkey	LOAEL 1.1 mg/m3	10 months
manganese dioxide	Inhalation	nervous system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Terphenyl, hydrogenated	Inhalation	liver	Not classified	Rat	NOAEL 0.5 mg/l	90 days
Terphenyl, hydrogenated	Ingestion	endocrine system blood liver kidney and/or bladder	Not classified	Rat	NOAEL 144 mg/kg/day	14 weeks
Aluminium oxide	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Aluminium oxide	Inhalation	pulmonary fibrosis	Not classified	Human	NOAEL Not available	occupational exposure
Diiron trioxide	Inhalation	pulmonary fibrosis pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
Quartz	Inhalation	silicosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	occupational exposure
Carbon black	Inhalation	pneumoconiosis	Not classified	Human	NOAEL Not available	occupational exposure
lead powder; [particle diameter < 1 mm]	Inhalation	kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 60 ug/dl blood	occupational exposure
lead powder; [particle diameter < 1 mm]	Inhalation	hematopoietic system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 50 ug/dl blood	occupational exposure
lead powder; [particle diameter < 1 mm]	Inhalation	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 40 ug/dl blood	occupational exposure
lead powder; [particle diameter < 1 mm]	Inhalation	gastrointestinal tract	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
lead powder; [particle diameter < 1 mm]	Inhalation	heart endocrine system immune system vascular system	Not classified	Human	NOAEL Not available	occupational exposure
lead powder; [particle diameter < 1 mm]	Ingestion	bone, teeth, nails, and/or hair	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 20 ug/dl blood	3 months
lead powder; [particle diameter < 1 mm]	Ingestion	eyes	May cause damage to organs though prolonged or repeated exposure	Rat	LOAEL 0.5 mg/kg/day	20 days
lead powder; [particle diameter < 1 mm]	Ingestion	hematopoietic system kidney and/or bladder	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 40 ug/dl blood	environmental exposure
lead powder; [particle diameter < 1 mm]	Ingestion	nervous system	May cause damage to organs though prolonged or repeated exposure	Human	LOAEL 11 ug/dl blood	environmental exposure
lead powder; [particle diameter < 1 mm]	Ingestion	auditory system heart endocrine system vascular system	Not classified	Human	NOAEL Not available	environmental exposure

Aspiration Hazard

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

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
manganese dioxide	1313-13-9	Rainbow trout	Endpoint not reached	96 hours	LC50	>100 mg/l
manganese dioxide	1313-13-9	Green algae	Experimental	72 hours	EC50	>100 mg/l
manganese dioxide	1313-13-9	Water flea	Experimental	48 hours	EC50	>100 mg/l
manganese dioxide	1313-13-9	Water flea	Experimental	8 days	NOEC	>100 mg/l
manganese dioxide	1313-13-9	Green algae	Experimental	72 hours	Effect Concentration 10%	>100 mg/l
Terphenyl, hydrogenated	61788-32-7		Data not available or insufficient for classification			
Polyphenyls, quater- and higher, partially hydrogenated	68956-74-1		Data not available or insufficient for classification			
Aluminium oxide	1344-28-1	Fish	Experimental	96 hours	LC50	>100 mg/l
Aluminium oxide	1344-28-1	Water flea	Experimental	48 hours	LC50	>100 mg/l
Aluminium oxide	1344-28-1	Green Algae	Experimental	72 hours	EC50	>100 mg/l
Aluminium oxide	1344-28-1	Green Algae	Experimental	72 hours	NOEC	>100 mg/l
Terphenyl	26140-60-3	Water flea	Estimated	48 hours	EC50	0.022 mg/l
Terphenyl	26140-60-3	Rainbow trout	Experimental	96 hours	LC50	27 mg/l
Terphenyl	26140-60-3	Green Algae	Experimental	72 hours	EC50	0.102 mg/l
Terphenyl	26140-60-3	Green Algae	Experimental	72 hours	NOEC	0.003 mg/l
Terphenyl	26140-60-3	Water flea	Experimental	21 days	NOEC	0.005 mg/l
Terphenyl	26140-60-3	Fathead minnow	Experimental	34 days	NOEC	0.064 mg/l
Carbon black	1333-86-4		Data not available or insufficient for classification			
Diiron trioxide	1309-37-1	Golden Orfe	Experimental	48 hours	LC50	>1,000 mg/l
Quartz	14808-60-7	Water flea	Estimated	48 hours	EC50	7,600 mg/l
Quartz	14808-60-7	Zebra Fish	Estimated	96 hours	LC50	5,000 mg/l
Quartz	14808-60-7	Green Algae	Estimated	72 hours	EC50	440 mg/l

3M Aerospace Sealant AC-251 Black B-2 Catalyst

Quartz	14808-60-7	Green Algae	Estimated	72 hours	NOEC	60 mg/l
ferbam (ISO)	14484-64-1	Guppy	Experimental	96 hours	LC50	0.09 mg/l
ferbam (ISO)	14484-64-1	Green Algae	Experimental	96 hours	EC50	2.4 mg/l
ferbam (ISO)	14484-64-1	Water flea	Experimental	48 hours	LC50	0.09 mg/l
ferbam (ISO)	14484-64-1	Rainbow trout	Experimental	60 days	NOEC	0.00056 mg/l
sodium hydroxide	1310-73-2		Data not available or insufficient for classification			
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.- (NONYLPHENYL)-.OMEGA.-HYDROXY-, BRANCHED, PHOSPHATES	68412-53-3		Data not available or insufficient for classification			
lead powder; [particle diameter < 1 mm]	7439-92-1	Water flea	Estimated	48 hours	LC50	0.026 mg/l
lead powder; [particle diameter < 1 mm]	7439-92-1	Green Algae	Estimated	72 hours	EC50	0.0205 mg/l
lead powder; [particle diameter < 1 mm]	7439-92-1	Fathead minnow	Experimental	96 hours	LC50	0.0408 mg/l
lead powder; [particle diameter < 1 mm]	7439-92-1	Rainbow trout	Experimental	578 days	NOEC	0.003 mg/l
lead powder; [particle diameter < 1 mm]	7439-92-1	Green Algae	Estimated	72 hours	Effect Concentration 10%	0.0061 mg/l
lead powder; [particle diameter < 1 mm]	7439-92-1		Estimated	30 days	Effect Concentration 10%	0.0017 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
manganese dioxide	1313-13-9	Data not available or insufficient			N/A	
Terphenyl, hydrogenated	61788-32-7	Experimental Biodegradation	28 days	CO2 evolution	1 %CO2 evolution/THC O2 evolution	OECD 301B - Modified sturm or CO2
Polyphenyls, quater- and higher, partially hydrogenated	68956-74-1	Data not available or insufficient			N/A	
Aluminium oxide	1344-28-1	Data not available or insufficient			N/A	
Terphenyl	26140-60-3	Experimental Biodegradation	14 days	BOD	0.5 % BOD/ThBOD	OECD 301C - MITI test (I)
Carbon black	1333-86-4	Data not available or insufficient			N/A	
Diiron trioxide	1309-37-1	Data not available or insufficient			N/A	
Quartz	14808-60-7	Data not available or insufficient			N/A	
ferbam (ISO)	14484-64-1	Experimental Hydrolysis		Hydrolytic half-life	≤31 minutes (t 1/2)	
ferbam (ISO)	14484-64-1	Estimated Biodegradation	14 days	BOD	0 % weight	OECD 301C - MITI test (I)
sodium hydroxide	1310-73-2	Data not available or insufficient			N/A	
POLY(OXY-1,2-ETHANEDIYL), .ALPHA.- (NONYLPHENYL)-.OMEGA.-HYDROXY-, BRANCHED, PHOSPHATES	68412-53-3	Data not available or insufficient			N/A	

3M Aerospace Sealant AC-251 Black B-2 Catalyst

lead powder; [particle diameter < 1 mm]	7439-92-1	Data not available or insufficient			N/A	
---	-----------	------------------------------------	--	--	-----	--

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
manganese dioxide	1313-13-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Terphenyl, hydrogenated	61788-32-7	Estimated BCF - Bluegill	42 days	Bioaccumulation factor	5200	Other methods
Polyphenyls, quater- and higher, partially hydrogenated	68956-74-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Aluminium oxide	1344-28-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Terphenyl	26140-60-3	Estimated BCF - Carp	60 days	Bioaccumulation factor	2300	OECD 305E - Bioaccumulation flow-through fish test
Carbon black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Diiron trioxide	1309-37-1	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
ferbam (ISO)	14484-64-1	Experimental Bioconcentration		Log Kow	-1.6	Other methods
sodium hydroxide	1310-73-2	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
POLY(OXY-1,2-ETHANEDIYL), .ALPHA. - (NONYLPHENYL)-OMEGA.-HYDROXY-, BRANCHED, PHOSPHATES	68412-53-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
lead powder; [particle diameter < 1 mm]	7439-92-1	Experimental BCF - Other	days	Bioaccumulation factor	1322	Other methods

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

Ingredient	CAS Nbr	PBT/vPvB status
Terphenyl, hydrogenated	61788-32-7	Meets REACH PBT criteria
Terphenyl, hydrogenated	61788-32-7	Meets REACH PBT criteria

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.

Dispose of waste product in a permitted industrial waste facility. Empty drums/barrels/containers used for transporting and

3M Aerospace Sealant AC-251 Black B-2 Catalyst

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

SECTION 14: Transportation information

ADR: UN3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FERBAM, TERPHENYL); 9; III; (-); M6.

IATA: UN3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FERBAM, TERPHENYL); 9; III.

IMDG: UN3082; ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FERBAM, TERPHENYL); 9; III; EMS: FA, SF; MARINE POLLUTANT (FERBAM, TERPHENYL).

Exemption: For vessels containing a net quantity of 5 l or a net mass of 5 kg or less per single or inner packaging, special provision 375 (ADR), exemption per 2.10.2.7 (IMDG) or special provision A197 (IATA) may be applied, if applicable

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
ferbam (ISO)	14484-64-1	Gr. 3: Not classifiable	International Agency for Research on Cancer
Diiron trioxide	1309-37-1	Gr. 3: Not classifiable	International Agency for Research on Cancer
lead powder; [particle diameter < 1 mm]	7439-92-1	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Restrictions on the manufacture, placing on the market and use:

The following substance(s) contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain dangerous substances, mixtures and articles. Users of this product are required to comply with the restrictions placed upon it by the aforementioned provision.

<u>Ingredient</u>	<u>CAS Nbr</u>
lead powder; [particle diameter < 1 mm]	7439-92-1

Restriction status: listed in REACH Annex XVII

Restricted uses: See Annex XVII to Regulation (EC) No 1907/2006 for Conditions of Restriction

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No

1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

EUH031	Contact with acid liberates toxic gas.
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H360D	May damage the unborn child.
H360FD	May damage fertility. May damage the unborn child.
H362	May cause harm to breast-fed children.
H371	May cause damage to organs.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Revision information:

- Industrial Use of Adhesives and Sealants: Section 16: Annex information was modified.
- Professional Use of Adhesives and Sealants: Section 16: Annex information was added.
- Section 3: Composition/ Information of ingredients table information was modified.
- Section 8: DNEL table row information was modified.
- Section 8: Occupational exposure limit table information was modified.
- Section 8: PNEC table row information was modified.
- Section 12: Component ecotoxicity information information was modified.
- Section 14: Transportation classification information was modified.
- Section 15: Carcinogenicity information information was modified.

Annex

1. Title	
Substance identification	Terphenyl, hydrogenated; EC No. 262-967-7; CAS Nbr 61788-32-7;
Exposure Scenario Name	Industrial Use of Adhesives and Sealants
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 04 -Chemical production where opportunity for exposure arises PROC 05 -Mixing or blending in batch processes PROC 08b -Transfer of substance or mixture (charging and discharging) at dedicated facilities PROC 10 -Roller application or brushing PROC 13 -Treatment of articles by dipping and pouring ERC 05 -Use at industrial site leading to inclusion into/onto article
Processes, tasks and activities covered	Application of product. Manual application of product. Mixing or blending of solid or liquid materials. Transfer of substance/mixture with dedicated engineering controls.

2. Operational conditions and risk management measures	
Operating Conditions	<p>Physical state:Liquid. General operating conditions: Emission days per year: 220 days/year; Indoors with LEV and good general ventilation; Processing Temperature:: <= 40 degree Celsius;</p> <p>Task: PROC05; Duration of use: 4 hours/day;</p> <p>Task: PROC08b; Duration of use: 8 hours/day;</p> <p>Task: PROC10; Duration of use: 4 hours/day;</p> <p>Task: PROC13; Duration of use: 8 hours/day;</p>
Risk management measures	<p>Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health: None needed; Environmental: Industrial Sewage Treatment Plant; Waste Water treatment - Incineration; ; The following task-specific risk management measures apply in addition to those listed above: Task: Mixing; Human Health; Air-purifying Half-Mask (with gas/vapour-cartridge, that can be combined with a particulate filter) (APF 10);</p> <p>Task: PROC10; Human Health; Protective Gloves - Chemical resistant. Refer to Section 8 of the SDS for specific glove material.;</p> <p>Task: PROC13; Human Health; Protective Gloves - Chemical resistant. Refer to Section 8 of the SDS for specific glove material.;</p>
Waste management measures	Incinerate in a permitted hazardous waste incinerator;
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

1. Title	
Substance identification	manganese dioxide; EC No. 215-202-6; CAS Nbr 1313-13-9;
Exposure Scenario Name	Professional Use of Adhesives and Sealants
Lifecycle Stage	Use at industrial sites
Contributing activities	PROC 05 -Mixing or blending in batch processes PROC 10 -Roller application or brushing PROC 13 -Treatment of articles by dipping and pouring ERC 05 -Use at industrial site leading to inclusion into/onto article
Processes, tasks and activities covered	Application of product with a roller or brush. Mixing or blending of solid or liquid

3M Aerospace Sealant AC-251 Black B-2 Catalyst

	materials.
2. Operational conditions and risk management measures	
Operating Conditions	<p>Physical state:Pasty General operating conditions: Duration of use; Emission days per year: 300 days/year; Processing Temperature:: <= 10 degree Celsius;</p> <p>Task: Mixing; Indoors with good general ventilation;</p> <p>Task: Application of product without local exhaust ventilation; Indoors with enhanced general ventilation;</p>
Risk management measures	<p>Under the operational conditions described above the following risk management measures apply: General risk management measures: Human health: None needed; Environmental: None needed;</p>
Waste management measures	No use-specific waste management measures are required for this product. Refer to Section 13 of main SDS for disposal instructions:
3. Prediction of exposure	
Prediction of exposure	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

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. In addition, this SDS is being provided to convey health and safety information. If you are the importer of record of this product into the European Union, you are responsible for all regulatory requirements, including, but not limited to, product registrations/notifications, substance volume tracking, and potential substance registration.

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



Safety Data Sheet

Copyright, 2018, 3M Company All rights reserved. Copying and/or downloading of this information for the purpose of properly utilising 3M products is allowed provided that: (1) the information is copied in full with no changes unless prior written agreement is obtained from 3M, and (2) neither the copy nor the original is resold or otherwise distributed with the intention of earning a profit thereon.

Document group:	30-3448-5	Version number:	4.01
Revision date:	13/11/2018	Supersedes date:	20/10/2017
Transportation version number:	1.00 (12/08/2013)		

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 Aerospace Sealant AC-251 B-1/2, B-1, and B-2 Black Base

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

Identified uses

Sealant.

1.3. Details of the supplier of the safety data sheet

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.
Telephone: +44 (0)1344 858 000
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

CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:

This material is not classified as hazardous according to Regulation (EC) No. 1272/2008, as amended, on classification, labelling, and packaging of substances and mixtures.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

Not applicable

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na ₂ (Sx)), reduced	68611-50-7			55 - 65	Substance not classified as hazardous
Calcium Carbonate	471-34-1	207-439-9		30 - 40	Substance with a Community level exposure limit in the workplace
Carbon black	1333-86-4	215-609-9	01-2119384822-32	0.1 - 0.5	Substance with a Community level exposure limit in the workplace
Quartz	14808-60-7	238-878-4		0 - 0.5	STOT RE 1, H372

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

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

Wash with soap and water. If signs/symptoms develop, get medical attention.

Eye contact

No need for first aid is anticipated.

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**

Formaldehyde

Condition

During combustion.

3M Aerospace Sealant AC-251 B-1/2, B-1, and B-2 Black Base

Carbon monoxide.
Carbon dioxide.
Hydrogen Chloride

During combustion.
During combustion.
During combustion.

5.3. Advice for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

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. Observe precautions from other sections.

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

Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and 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

Avoid breathing dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Avoid release to the environment.

7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from strong bases.

7.3. Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

Ingredient	CAS Nbr	Agency	Limit type	Additional comments
Carbon black	1333-86-4	UK HSC	TWA: 3.5 mg/m ³ ; STEL: 7 mg/m ³	
Quartz	14808-60-7	UK HSC	TWA(respirable):0.1 mg/m ³	

Limestone 471-34-1 UK HSC TWA(as inhalable dust):10 mg/m3;TWA(as respirable dust):4 mg/m3;TWA(Inhalable):10 mg/m3;TWA(respirable):4 mg/m3

UK HSC : UK Health and Safety Commission
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling

Biological limit values

No biological limit values exist for any of the components listed in Section 3 of this safety data sheet.

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

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:

Safety glasses with side shields.

Applicable Norms/Standards

Use eye protection conforming to EN 166

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing.

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

Material	Thickness (mm)	Breakthrough Time
Nitrile rubber.	No data available	No data available

Applicable Norms/Standards

Use gloves tested to EN 374

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

For questions about suitability for a specific application, consult with your respirator manufacturer.

Applicable Norms/Standards

Use a respirator conforming to EN 140 or EN 136: filter types A & P

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Paste
Appearance/Odour	Sulphurous odour; Black paste
Odour threshold	<i>No data available.</i>
pH	<i>No data available.</i>
Boiling point/boiling range	<i>Not applicable.</i>
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	≥93.3 °C [<i>Test Method: Closed Cup</i>]
Autoignition temperature	<i>No data available.</i>
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	1.61 [<i>Ref Std: WATER=1</i>]
Water solubility	Nil
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	1.61 g/ml

9.2. Other information

EU Volatile Organic Compounds	<i>No data available.</i>
-------------------------------	---------------------------

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

None known.

10.5 Incompatible materials

Reducing agents.

Strong acids.

Strong bases.

10.6 Hazardous decomposition products

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

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 11 are based on UN GHS calculation rules and classifications derived from 3M assessments.

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

Inhalation

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

Skin contact

Contact with the skin during product use is not expected to result in significant irritation.

Eye contact

Contact with the eyes during product use is not expected to result in significant irritation.

Ingestion

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

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

Name	Route	Species	Value
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na ₂ (Sx)), reduced	Dermal	Rat	LD50 > 7,800 mg/kg
Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na ₂ (Sx)), reduced	Ingestion	Rat	LD50 > 5,000 mg/kg
Calcium Carbonate	Dermal	Rat	LD50 > 2,000 mg/kg
Calcium Carbonate	Inhalation-Dust/Mist (4 hours)	Rat	LC50 3 mg/l
Calcium Carbonate	Ingestion	Rat	LD50 6,450 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
Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-	Rabbit	No significant irritation

3M Aerospace Sealant AC-251 B-1/2, B-1, and B-2 Black Base

chloroethane] and sodium sulfide (Na ₂ (Sx)), reduced		
Calcium Carbonate	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation
Quartz	Professional judgement	No significant irritation

Serious Eye Damage/Irritation

Name	Species	Value
Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na ₂ (Sx)), reduced	Rabbit	No significant irritation
Calcium Carbonate	Rabbit	No significant irritation
Carbon black	Rabbit	No significant irritation

Skin Sensitisation

Name	Species	Value
Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na ₂ (Sx)), reduced		Not classified

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
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
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
Calcium Carbonate	Ingestion	Not classified for development	Rat	NOAEL 625 mg/kg/day	prematuring & during gestation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	Not classified	Rat	NOAEL 0.812 mg/l	90 minutes

3M Aerospace Sealant AC-251 B-1/2, B-1, and B-2 Black Base**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
Calcium Carbonate	Inhalation	respiratory system	Not classified	Human	NOAEL Not available	occupational exposure
Carbon black	Inhalation	pneumoconiosis	Not classified	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

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

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not agree with the EU material classification in Section 2 and/or the ingredient classifications in Section 3 if specific ingredient classifications are mandated by a competent authority. In addition, statements and data presented in Section 12 are based on UN GHS calculation rules and classifications derived from 3M assessments.

12.1. Toxicity

No product test data available.

Material	CAS #	Organism	Type	Exposure	Test endpoint	Test result
Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na ₂ (Sx)), reduced	68611-50-7		Data not available or insufficient for classification			
Calcium Carbonate	471-34-1	Green algae	Experimental	72 hours	EC50	>100 mg/l
Calcium Carbonate	471-34-1	Rainbow trout	Experimental	96 hours	LC50	>100 mg/l
Calcium Carbonate	471-34-1	Water flea	Experimental	48 hours	EC50	>100 mg/l
Calcium Carbonate	471-34-1	Green algae	Experimental	72 hours	Effect Concentration 10%	>100 mg/l
Carbon black	1333-86-4		Data not available or insufficient for classification			
Quartz	14808-60-7		Data not available or insufficient for classification			

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na ₂ (Sx)), reduced	68611-50-7	Data not available or insufficient			N/A	
Calcium Carbonate	471-34-1	Data not available or insufficient			N/A	
Carbon black	1333-86-4	Data not available or insufficient			N/A	

3M Aerospace Sealant AC-251 B-1/2, B-1, and B-2 Black Base

Quartz	14808-60-7	Data not available or insufficient			N/A	
--------	------------	------------------------------------	--	--	-----	--

12.3 : Bioaccumulative potential

Material	Cas No.	Test type	Duration	Study Type	Test result	Protocol
Propane, 1,2,3-trichloro-, polymer with 1,1'-[methylenebis(oxy)]bis[2-chloroethane] and sodium sulfide (Na ₂ (Sx)), reduced	68611-50-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Calcium Carbonate	471-34-1	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
Quartz	14808-60-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

12.4. Mobility in soil

Please contact manufacturer for more details

12.5. Results of the PBT and vPvB assessment

This material does not contain any substances that are assessed to be a PBT or vPvB

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.

This product has been classified as a non-hazardous waste. Prior to disposal, consult all applicable authorities and regulations to insure proper classification. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty and clean product containers may be disposed as non-hazardous waste. Consult your specific regulations and service providers to determine available options and requirements.

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 10 Waste adhesives and sealants other than those mentioned in 08 04 09

SECTION 14: Transportation information

ADR/IATA/IMDG: Not restricted for transport.

SECTION 15: Regulatory information

3M Aerospace Sealant AC-251 B-1/2, B-1, and B-2 Black Base

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

Global inventory status

Contact 3M for more information. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

15.2. Chemical Safety Assessment

A chemical safety assessment has not been carried out for this mixture. Chemical safety assessments for the contained substances may have been carried out by the registrants of the substances in accordance with Regulation (EC) No 1907/2006, as amended.

SECTION 16: Other information

List of relevant H statements

H372 Causes damage to organs through prolonged or repeated exposure.

Revision information:

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

Section 11: Acute Toxicity table information was modified.

Section 11: Reproductive Toxicity Table information was modified.

Section 11: Serious Eye Damage/Irritation Table information was modified.

Section 11: Skin Corrosion/Irritation Table information was modified.

Section 11: Target Organs - Repeated Table information was modified.

Section 11: Target Organs - Single Table information was modified.

Section 12: Component ecotoxicity information information was modified.

Section 12: No PBT/vPvB information available warning information was modified.

Section 12: Persistence and Degradability information information was modified.

Section 12: Biocumulative potential information information was modified.

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

Section 15: Chemical Safety Assessment information was modified.

Section 15: Regulations - Inventories information was modified.

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

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