



## Safety Data Sheet

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<b>Transportation version number:</b>	8.00 (23/01/2014)		

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(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 B/A Grey

#### Product Identification Numbers

62-2216-0530-6

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

##### Identified uses

Structural adhesive.

#### 1.3. Details of the supplier of the substance or mixture

**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:**

10-3174-9, 10-3167-3

### TRANSPORTATION INFORMATION

62-2216-0530-6

Not hazardous for transportation

ADR/IATA/IMDG: Please Refer to Components For Transport Information.

## KIT LABEL

### 2.2. Label elements

CLP REGULATION (EC) No 1272/2008

#### SIGNAL WORD

DANGER!

#### Symbols:

GHS05 (Corrosion) | GHS07 (Exclamation mark) | GHS09 (Environment) |

#### Pictograms



#### HAZARD STATEMENTS:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.

#### PRECAUTIONARY STATEMENTS

##### Prevention:

P280B	Wear protective gloves and eye/face protection.
P273	Avoid release to the environment.

##### 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.
P310	Immediately call a POISON CENTRE or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

##### Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.
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Refer to Safety Data Sheet for component % unknown values ([www.3M.com/msds](http://www.3M.com/msds)).

#### Notes on labelling

Dermal irritation/corrosion test results indicate this material is not corrosive to skin.

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

##### Symbol(s)



Irritant



Dangerous

for the  
environment

**Contains:**

Consult the component labels for disclosable ingredients.

**Risk phrases**

R41	Risk of serious damage to eyes.
R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

**Safety phrases**

S24	Avoid contact with skin.
S37/39A	Wear suitable gloves and eye protection.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
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**

For containers <125 ml use Xi-N; R41-43, S24-37/39A-26-2055.

**Revision information:**

Revision Changes:

Section 14: Transportation classification information was added.



## Safety Data Sheet

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<b>Revision date:</b>	01/10/2014	<b>Supersedes date:</b>	13/08/2013
<b>Transportation version number:</b>			

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(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B

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

##### Identified uses

Structural adhesive.

#### 1.3. Details of the supplier of the substance or mixture

**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:

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

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

Skin Sensitization, Category 1 - Skin Sens. 1; H317

Hazardous to the Aquatic Environment (Chronic), Category 2 - Aquatic Chronic 2; H411

For full text of H phrases, see Section 16.

#### 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

## 3M(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B

For full text of R phrases, see Section 16.

### 2.2. Label elements

#### CLP REGULATION (EC) No 1272/2008

#### SIGNAL WORD

WARNING!

#### Symbols:

GHS07 (Exclamation mark) |GHS09 (Environment) |

#### Pictograms



Ingredient	CAS Nbr	% by Wt
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	70 - 80

#### HAZARD STATEMENTS:

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

#### PRECAUTIONARY STATEMENTS

##### Prevention:

P280E	Wear protective gloves.
P273	Avoid release to the environment.

##### 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.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

##### Disposal:

P501	Dispose of contents/container in accordance with applicable local/regional/national/international regulations.
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For containers not exceeding 125 ml the following Hazard and Precautionary statements may be used:

##### <=125 ml Hazard statements

H317	May cause an allergic skin reaction.
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##### <=125 ml Precautionary statements

##### Prevention:

P280E	Wear protective gloves.
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## 3M(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B

### Response:

P333 + P313

If skin irritation or rash occurs: Get medical advice/attention.

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

#### Symbol(s)



Irritant



Dangerous  
for the  
environment

### Contains:

4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane

### 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

For containers <125 mL, label with Xi, N; R43 and S24-37-2055.

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	NLP 500-033-5	70 - 80	Xi:R36-38; N:R51/53; R43 (EU)  Skin Irrit. 2, H315; Skin Irritation 2, H315; Eye Irrit. 2, H319; Eye Irrit. 2A, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411 (CLP)
Kaolin	1332-58-7	EINECS 310-194-1	20 - 30	

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

<u>Substance</u>	<u>Condition</u>
Aldehydes.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Ketones.	During combustion.

### 5.3. Advice for fire-fighters

No special protective actions for fire-fighters are anticipated.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Ventilate the area with fresh air. 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.

## 3M(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B

### 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

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

### 7.2. Conditions for safe storage including any incompatibilities

Store away from acids. Store away from oxidising agents.

### 7.3. Specific end use(s)

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

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

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
Kaolin	1332-58-7	UK HSC	TWA (as respirable dust): 2 mg/m <sup>3</sup>	

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

Provide ventilated enclosure for heat curing. Provide appropriate local exhaust ventilation for cutting, grinding, sanding or machining. 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



## 3M(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B

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.

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

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

### 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.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Viscous Liquid
Appearance/Odour	Grey; very slight epoxy odour.
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</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	248 °C [ <i>Test Method</i> :Pensky-Martens Closed Cup]
Autoignition temperature	<i>No data available.</i>
Flammable Limits(LEL)	<i>Not applicable.</i>
Flammable Limits(UEL)	<i>Not applicable.</i>
Vapour pressure	$\leq 13.3$ Pa [ <i>@ 25 °C</i> ]
Relative density	1.33 [ <i>@ 20 °C</i> ] [ <i>Ref Std</i> :WATER=1]
Water solubility	Nil
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>Not applicable.</i>
Vapour density	<i>Not applicable.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	75 - 150 Pa-s [ <i>Test Method</i> :Brookfield]
Density	1.33 g/ml [ <i>@ 20 °C</i> ]

### 9.2. Other information

Hazardous air pollutants	0 % weight [ <i>Test Method</i> :Calculated]
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## 3M(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B

<b>Volatile organic compounds (VOC)</b>	0 g/l [ <i>Test Method</i> :calculated SCAQMD rule 443.1]
<b>Volatile organic compounds (VOC)</b>	0 g/l [ <i>Test Method</i> :calculated SCAQMD rule 443.1] [ <i>Details</i> :EU VOC content]
<b>Percent volatile</b>	0 % weight [ <i>Test Method</i> :Tested per ASTM protocol]
<b>VOC less H2O &amp; exempt solvents</b>	0 g/l [ <i>Test Method</i> :calculated SCAQMD rule 443.1]
<b>VOC less H2O &amp; exempt solvents</b>	3.7 g/l [ <i>Test Method</i> :calculated SCAQMD rule 443.1] [ <i>Details</i> :when used as intended with Part A]

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

### 10.5 Incompatible materials

Strong acids.

Strong oxidising agents.

### 10.6 Hazardous decomposition products

<u>Substance</u>	<u>Condition</u>
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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

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.

**3M(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B****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.

**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
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
Kaolin	Dermal		LD50 estimated to be > 5,000 mg/kg
Kaolin	Ingestion	Human	LD50 > 15,000 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Rabbit	Mild irritant
Kaolin		No significant irritation

**Serious Eye Damage/Irritation**

Name	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Rabbit	Moderate irritant
Kaolin		No significant irritation

**Skin Sensitisation**

Name	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Human and animal	Sensitising

**Respiratory Sensitisation**

Name	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Human	Some positive data exist, but the data are not sufficient for classification

**Germ Cell Mutagenicity**

Name	Route	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	In vivo	Not mutagenic
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	In Vitro	Some positive data exist, but the data are not sufficient for classification

**Carcinogenicity**

Name	Route	Species	Value
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Kaolin	Inhalation	Multiple animal species	Not carcinogenic

**Reproductive Toxicity**

**3M(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B****Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Ingestion	Not toxic to female reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Ingestion	Not toxic to male reproduction	Rat	NOAEL 750 mg/kg/day	2 generation
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Dermal	Not toxic to development	Rabbit	NOAEL 300 mg/kg/day	during organogenesis
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Ingestion	Not toxic to development	Rat	NOAEL 750 mg/kg/day	2 generation

**Target Organ(s)****Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
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
Kaolin	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL NA	occupational exposure
Kaolin	Inhalation	pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	

**Aspiration Hazard**

Name	Value
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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**

**3M(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B**

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
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
Kaolin	1332-58-7		Data not available or insufficient for classification			

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
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)
Kaolin	1332-58-7	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
4,4'-Isopropylidene diphenol,	25068-38-6	Laboratory BCF - Other	28 days	Bioaccumulation factor	<42	Other methods

**3M(TM) Scotch-Weld(TM) Epoxy Adhesive 2216 Grey Part B**

oligomeric reaction products with 1-chloro-2,3-epoxypropane						
Kaolin	1332-58-7	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**

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

Dispose of completely cured (or polymerised) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product 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. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. 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 04 09\* Waste adhesives and sealants containing organic solvents or other dangerous substances
- 20 01 27\* Paint, inks, adhesives and resins containing dangerous substances

**SECTION 14: Transportation information**

ADR: Not restricted for transport.

IMDG: Not restricted for transport.

IATA: Not restricted for transport.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Global inventory status**

Contact 3M for more information. The components of this 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 Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA.

**15.2. Chemical Safety Assessment**

Not applicable

**SECTION 16: Other information****List of relevant H statements**

H315	Causes skin irritation
H315	Causes skin irritation.
H317	May cause an allergic skin reaction
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects
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.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

**Revision information:**

Revision Changes:

Section 1: Product name information was modified.

Section 8: Eye/face protection information information was modified.

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

Page Heading: Product name information was modified.

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

Section 12: Persistence and Degradability information information was modified.

Section 10: Conditions to avoid physical property information was modified.

Section 12: Bioaccumulative potential information information was modified.

Section 14: Transportation classification information was modified.

Copyright information was modified.

Section 9: Property description for optional properties information was modified.

Section 8: Occupational exposure limit table information was modified.

OEL Reg Agency Desc information was modified.

Telephone header information was modified.

Company Telephone information was modified.

Section 11: Acute Toxicity table information was modified.

Section 11: Germ Cell Mutagenicity Table information was modified.

Section 11: Skin Sensitization Table information was modified.  
Section 11: Respiratory Sensitization Table information was modified.  
Section 11: Reproductive Toxicity Table information was modified.  
Section 11: Health Effects - Eye information information was modified.  
Section 11: Health Effects - Inhalation information information was modified.  
Section 5: Fire - Advice for fire fighters information information was modified.  
Section 7: Precautions safe handling information information was modified.  
Section 8: Appropriate Engineering controls information information was modified.  
Section 8: Personal Protection - Eye information information was modified.  
Section 8: Personal Protection - Skin/hand information information was modified.  
Section 13: 13.1. Waste disposal note information was modified.  
Section 13: Standard Phrase Category Waste GHS information was modified.  
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.  
Section 8: Personal Protection - Skin/body information information was added.  
Section 8: Skin protection - protective clothing information information was added.  
Section 2: Notes on labelling heading information was added.  
Section 2: Label remarks information was added.  
Section 8: Occupational exposure limit table information was added.  
Section 8: Personal Protection - Respiratory Information information was added.  
Section 11: Disclosed components not in tables text information was added.  
Section 12: Classification Warning information was added.  
Section 11: Classification disclaimer information was added.  
Section 8: 8.1.1 Biological limit values table heading information was added.  
Section 8: BLV information was added.  
Label: CLP <125ml - Header information was added.  
Label: CLP <125ml Hazard - Header information was added.  
Section 2: <125ml Hazard - Health information was added.  
Label: CLP <125ml Precautionary - Header information was added.  
Label: CLP <125ml Precautionary - Prevention - Header information was added.  
Section 2: <125ml Precautionary - Prevention information was added.  
Label: CLP <125ml Precautionary - Response - Header information was added.  
Section 2: <125ml Precautionary - Response information was added.  
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.  
Label: CLP Supplemental Hazard Statements information was deleted.  
Label: CLP Supplemental Hazard Statements - Header information was deleted.  
Label: CLP Supplemental Information - Header information was deleted.  
Section 8: mg/m<sup>3</sup> key information was deleted.  
Section 8: ppm key information was deleted.  
Section 11: Aspiration Hazard Table information was deleted.  
Section 11: Classification disclaimer information was deleted.  
Section 11: Target Organ Effects heading information was deleted.  
Section 12: Classification Warning information was deleted.  
Section 11: Prolonged or repeated exposure may cause: heading information was deleted.  
Section 11: Prolonged or repeated exposure may cause standard phrases information was deleted.

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**3M United Kingdom MSDSs are available at [www.3M.com/uk](http://www.3M.com/uk)**





## Safety Data Sheet

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<b>Transportation version number:</b>			

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™ Scotch-Weld™ Epoxy Adhesive 2216 Grey Part A

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

##### Identified uses

Structural adhesive.

#### 1.3. Details of the supplier of the substance or mixture

**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:

Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318

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

Skin Sensitization, Category 1 - Skin Sens. 1; H317

For full text of H phrases, see Section 16.

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

##### Indication of danger

Irritant; Xi; R41

Irritant; Xi; R38

Sensitizing; R43

For full text of R phrases, see Section 16.

## 2.2. Label elements

### CLP REGULATION (EC) No 1272/2008

#### SIGNAL WORD

DANGER!

#### Symbols:

GHS05 (Corrosion) | GHS07 (Exclamation mark) |

#### Pictograms



#### Ingredient

Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)

#### CAS Nbr

68911-25-1

#### % by Wt

30 - 60

#### HAZARD STATEMENTS:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

#### PRECAUTIONARY STATEMENTS

#### Prevention:

P280B Wear protective gloves and eye/face protection.

#### 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.  
P310 Immediately call a POISON CENTRE or doctor/physician.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

60% of the mixture consists of components of unknown acute oral toxicity.

60% of the mixture consists of components of unknown acute dermal toxicity.

Contains 53% of components with unknown hazards to the aquatic environment.

#### Notes on labelling

Dermal irritation/corrosion test results indicate this material is not corrosive to skin.

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

#### Symbol(s)



Irritant

## 3M™ Scotch-Weld™ Epoxy Adhesive 2216 Grey Part A

### Contains:

Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)

### Risk phrases

R41 Risk of serious damage to eyes.  
R38 Irritating to skin.  
R43 May cause sensitisation by skin contact.

### Safety phrases

S24 Avoid contact with skin.  
S37/39A Wear suitable gloves and eye protection.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	68911-25-1		30 - 60	Xi:R38-41; R43 (Self Classified)  Skin Irrit. 2, H315; Eye Dam. 1, H318; Skin Sens. 1, H317 (Self Classified)
Kaolin	1332-58-7	EINECS 310-194-1	30 - 60	
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	EINECS 224-207-2	7 - 13	R43 (Vendor) C:R34 (Self Classified)  Skin Sens. 1, H317 (Vendor) Skin Corr. 1B, H314 (Self Classified)
Toluene	108-88-3	EINECS 203-625-9	< 0.5	Repr.Cat.3:R63; F:R11; Xn:R48/20; Xn:R65; Xi:R38; R67 - Nota 4 (EU)  Flam. Liq. 2, H225; Asp. Tox. 1, H304; Skin Irrit. 2, H315; Repr. 2, H361d; STOT SE 3, H336; STOT RE 1, H372 (CLP)

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

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

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

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### 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 for at least 15 minutes. Remove contact lenses if easy to do. Continue rinsing. Immediately get medical attention.

**If swallowed**

Rinse mouth. Do not induce vomiting. Get immediate medical attention.

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

See Section 11.1 Information on toxicological effects

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

Not applicable

**SECTION 5: Fire-fighting measures**

**5.1. Extinguishing media**

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

**5.2. Special hazards arising from the substance or mixture**

None inherent in this product.

**Hazardous Decomposition or By-Products**

<u>Substance</u>	<u>Condition</u>
Amine compounds.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Oxides of nitrogen.	During combustion.

**5.3. Advice for fire-fighters**

No special protective actions for fire-fighters are anticipated.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Ventilate the area with fresh air. 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.

**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

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. Wash contaminated clothing before reuse. Use personal protective equipment (eg. gloves, respirators...) as required.

### 7.2. Conditions for safe storage including any incompatibilities

No special storage requirements.

### 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.

<b>Ingredient</b>	<b>CAS Nbr</b>	<b>Agency</b>	<b>Limit type</b>	<b>Additional comments</b>
Toluene	108-88-3	UK HSC	TWA: 191 mg/m <sup>3</sup> (50 ppm); STEL: 384 mg/m <sup>3</sup> (100 ppm)	Skin Notation
Kaolin	1332-58-7	UK HSC	TWA (as respirable dust): 2 mg/m <sup>3</sup>	

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:

Full face shield.

Indirect vented goggles.

##### Skin/hand protection

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

## 3M™ Scotch-Weld™ Epoxy Adhesive 2216 Grey Part A

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: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

### 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.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Liquid.
<b>Specific Physical Form:</b>	Viscous.
<b>Appearance/Odour</b>	pungent odour, grey.
<b>Odour threshold</b>	<i>No data available.</i>
<b>pH</b>	<i>Not applicable.</i>
<b>Boiling point/boiling range</b>	<i>No data available.</i>
<b>Melting point</b>	<i>Not applicable.</i>
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Explosive properties</b>	Not classified
<b>Oxidising properties</b>	Not classified
<b>Flash point</b>	$\geq 93.9$ °C [ <i>Test Method</i> :Closed Cup]
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Flammable Limits(LEL)</b>	<i>Not applicable.</i>
<b>Flammable Limits(UEL)</b>	<i>Not applicable.</i>
<b>Vapour pressure</b>	$\leq 13.3$ Pa [ <i>@ 25 °C</i> ]
<b>Relative density</b>	1.26 [ <i>@ 20 °C</i> ] [ <i>Ref Std</i> :WATER=1]
<b>Water solubility</b>	Nil
<b>Solubility- non-water</b>	<i>No data available.</i>
<b>Partition coefficient: n-octanol/water</b>	<i>No data available.</i>
<b>Evaporation rate</b>	<i>Not applicable.</i>
<b>Vapour density</b>	<i>Not applicable.</i>
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>Viscosity</b>	40 - 80 Pa-s [ <i>@ 20 °C</i> ] [ <i>Test Method</i> :Brookfield]
<b>Density</b>	1.26 g/ml [ <i>@ 20 °C</i> ]

### 9.2. Other information

<b>Hazardous air pollutants</b>	$< 1$ % weight [ <i>Test Method</i> :Calculated]
<b>Volatile organic compounds (VOC)</b>	6.2 g/l [ <i>Test Method</i> :calculated SCAQMD rule 443.1]
<b>Volatile organic compounds (VOC)</b>	6.2 g/l [ <i>Test Method</i> :calculated SCAQMD rule 443.1] [ <i>Details</i> :EU VOC content]
<b>Percent volatile</b>	3.4 % weight [ <i>@ 110 °C</i> ] [ <i>Test Method</i> :Tested per ASTM protocol] [ <i>Details</i> :ASTM D2369]
<b>VOC less H2O &amp; exempt solvents</b>	43 g/l [ <i>Test Method</i> :calculated SCAQMD rule 443.1]
<b>VOC less H2O &amp; exempt solvents</b>	3.7 g/l [ <i>Test Method</i> :calculated SCAQMD rule 443.1] [ <i>Details</i> :when used as intended with Part B]

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

### 10.5 Incompatible materials

None known.

### 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 target organ effects after inhalation.

#### Skin contact

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

#### Eye contact

Corrosive (eye burns): Signs/symptoms may include cloudy appearance of the cornea, chemical burns, severe pain, tearing, ulcerations, significantly impaired vision or complete loss of vision.

#### Ingestion

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

**3M™ Scotch-Weld™ Epoxy Adhesive 2216 Grey Part A****Target Organ Effects:****Prolonged or repeated exposure may cause:**

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

**Reproductive/Developmental Toxicity:**

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

**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 ATE >5,000 mg/kg
Overall product	Ingestion		No data available; calculated ATE >5,000 mg/kg
Kaolin	Dermal		LD50 estimated to be > 5,000 mg/kg
Kaolin	Ingestion	Human	LD50 > 15,000 mg/kg
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Dermal	Rabbit	LD50 2,500 mg/kg
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Ingestion	Rat	LD50 3,160 mg/kg
Toluene	Dermal	Rat	LD50 12,000 mg/kg
Toluene	Inhalation-Vapor (4 hours)	Rat	LC50 30 mg/l
Toluene	Ingestion	Rat	LD50 5,550 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Rabbit	Irritant
Kaolin		No significant irritation
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Rabbit	Corrosive
Toluene	Rabbit	Irritant

**Serious Eye Damage/Irritation**

Name	Species	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	similar health hazards	Corrosive
Kaolin		No significant irritation
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	similar health hazards	Corrosive
Toluene	Rabbit	Moderate irritant

**Skin Sensitisation**

Name	Species	Value
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	Guinea pig	Sensitising
Toluene	Guinea pig	Not sensitizing

**Respiratory Sensitisation**

Name	Species	Value
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**Germ Cell Mutagenicity**

Name	Route	Value
Toluene	In Vitro	Not mutagenic
Toluene	In vivo	Not mutagenic



**3M™ Scotch-Weld™ Epoxy Adhesive 2216 Grey Part A**

**Carcinogenicity**

Name	Route	Species	Value
Kaolin	Inhalation	Multiple animal species	Not carcinogenic
Toluene	Dermal	Mouse	Some positive data exist, but the data are not sufficient for classification
Toluene	Ingestion	Rat	Some positive data exist, but the data are not sufficient for classification
Toluene	Inhalation	Mouse	Some positive data exist, but the data are not sufficient for classification

**Reproductive Toxicity**

**Reproductive and/or Developmental Effects**

Name	Route	Value	Species	Test result	Exposure Duration
Toluene	Inhalation	Some positive female reproductive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.3 mg/l	1 generation
Toluene	Ingestion	Toxic to development	Rat	LOAEL 520 mg/kg/day	during gestation
Toluene	Inhalation	Toxic to development	Human	NOAEL Not available	poisoning and/or abuse

**Target Organ(s)**

**Specific Target Organ Toxicity - single exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Toluene	Inhalation	central nervous system depression	May cause drowsiness or dizziness	Human	NOAEL Not available	
Toluene	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 0.004 mg/l	3 hours
Toluene	Ingestion	central nervous system depression	May cause drowsiness or dizziness	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
Kaolin	Inhalation	pneumoconiosis	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL NA	occupational exposure
Kaolin	Inhalation	pulmonary fibrosis	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	
Toluene	Inhalation	auditory system   nervous system   eyes   olfactory system	Causes damage to organs through prolonged or repeated exposure	Human	NOAEL Not available	poisoning and/or abuse
Toluene	Inhalation	respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	LOAEL 2.3 mg/l	15 months
Toluene	Inhalation	heart   liver   kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 11.3 mg/l	15 weeks
Toluene	Inhalation	endocrine system	Some positive data exist, but the	Rat	NOAEL 1.1	4 weeks

**3M™ Scotch-Weld™ Epoxy Adhesive 2216 Grey Part A**

			data are not sufficient for classification		mg/l	
Toluene	Inhalation	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL Not available	20 days
Toluene	Inhalation	bone, teeth, nails, and/or hair	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 1.1 mg/l	8 weeks
Toluene	Inhalation	hematopoietic system   vascular system	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
Toluene	Ingestion	nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 625 mg/kg/day	13 weeks
Toluene	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	liver   kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Multiple animal species	NOAEL 2,500 mg/kg/day	13 weeks
Toluene	Ingestion	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 600 mg/kg/day	14 days
Toluene	Ingestion	endocrine system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	28 days
Toluene	Ingestion	immune system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 105 mg/kg/day	4 weeks

**Aspiration Hazard**

Name	Value
Toluene	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 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 Nbr	Organism	Type	Exposure	Test endpoint	Test result
3,3'-Oxybis(ethylenoxy)bis(propylamine)	4246-51-9	Golden Orfe	Experimental	96 hours	LC50	220 mg/l
3,3'-Oxybis(ethylenoxy)bis(propylamine)	4246-51-9	Crustacea	Experimental	48 hours	EC50	220 mg/l
3,3'-Oxybis(ethylenoxy)bis(propylamine)	4246-51-9	Algae	Experimental	72 hours	EC50	69 mg/l

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Toluene	108-88-3	Water flea	Experimental	48 hours	EC50	3.78 mg/l
Toluene	108-88-3	Coho Salmon	Experimental	96 hours	LC50	5.5 mg/l
Toluene	108-88-3	Green Algae	Experimental	72 hours	EC50	12.5 mg/l
Toluene	108-88-3	Sheepshead Minnow	Experimental	28 days	NOEC	3.2 mg/l
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	68911-25-1		Data not available or insufficient for classification			
Kaolin	1332-58-7		Data not available or insufficient for classification			

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	68911-25-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
Toluene	108-88-3	Experimental Photolysis		Photolytic half-life (in air)	5.38 days (t <sub>1/2</sub> )	Other methods
Toluene	108-88-3	Experimental Biodegradation	14 days	BOD	100 % weight	OECD 301C - MITI test (I)
Kaolin	1332-58-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Estimated Biodegradation	28 days	BOD	12.6 % weight	OECD 301C - MITI test (I)

**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
Fatty acids, C18-unsaturated, dimers, polymers with 3,3'-oxybis(ethyleneoxy)bis(propylamine)	68911-25-1	Data not available or insufficient for classification	N/A	N/A	N/A	N/A

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lamine)						
Toluene	108-88-3	Experimental Bioconcentration		Log Kow	2.73	Other methods
Kaolin	1332-58-7	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Estimated Bioconcentration		Log Kow	-1.46	Other methods

**12.4. Mobility in soil**

Please contact manufacturer for more details

**12.5. Results of the PBT and vPvB assessment**

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

**12.6. Other adverse effects**

No information available.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

See Section 11.1 Information on toxicological effects

Dispose of completely cured (or polymerised) material in a permitted industrial waste facility. As a disposal alternative, incinerate uncured product in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. 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 04 09\* Waste adhesives and sealants containing organic solvents or other dangerous substances
- 20 01 27\* Paint, inks, adhesives and resins containing dangerous substances

**SECTION 14: Transportation information**

ADR: Not restricted for transport.

IMDG: Not restricted for transport.

IATA: Not restricted for transport.

**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>
Toluene	108-88-3	Gr. 3: Not classifiable	International Agency for Research on Cancer

#### Global inventory status

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 Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA.

### 15.2. Chemical Safety Assessment

Not applicable

## SECTION 16: Other information

#### List of relevant H statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.

#### List of relevant R-phrases

R11	Highly flammable.
R34	Causes burns.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R63	Possible risk of harm to the unborn child.
R65	Harmful: May cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.

#### Revision information:

Revision Changes:

Section 1: Product name information was modified.

Section 8: Eye/face protection information information was modified.

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

Page Heading: Product name information was modified.

Section 15: Carcinogenicity information information was modified.

Section 16: List of relevant R phrase information information was modified.  
Section 3: Composition/ Information of ingredients table information was modified.  
Section 10: Conditions to avoid physical property information was modified.  
Section 15: Regulations - Inventories information was modified.  
Copyright information was modified.  
Section 9: Property description for optional properties information was modified.  
Label: CLP Percent Unknown information was modified.  
Label: CLP Percent Unknown information was modified.  
Label: CLP Precautionary - Response information was modified.  
CLP: Ingredient table information was modified.  
Section 8: Occupational exposure limit table information was modified.  
OEL Reg Agency Desc information was modified.  
Telephone header information was modified.  
Company Telephone information was modified.  
Section 11: Aspiration Hazard Table information was modified.  
Section 11: Acute Toxicity table information was modified.  
Section 11: Carcinogenicity Table information was modified.  
Section 11: Serious Eye Damage/Irritation Table information was modified.  
Section 11: Germ Cell Mutagenicity Table information was modified.  
Section 11: Skin Sensitization Table information was modified.  
Section 11: Reproductive Toxicity 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 11: Health Effects - Eye information information was modified.  
Section 11: Health Effects - Inhalation information information was modified.  
Section 5: Fire - Advice for fire fighters information information was modified.  
Section 6: Accidental release personal information information was modified.  
Section 6: Accidental release clean-up information information was modified.  
Section 7: Precautions safe handling information information was modified.  
Section 8: Personal Protection - Eye information information was modified.  
Section 8: Personal Protection - Skin/hand information information was modified.  
Section 13: 13.1. Waste disposal note information was modified.  
Section 13: Standard Phrase Category Waste GHS information was modified.  
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.  
Section 8: Personal Protection - Skin/body information information was added.  
Section 8: Skin protection - protective clothing information information was added.  
Section 12: Component ecotoxicity information information was added.  
Section 12: Persistence and Degradability information information was added.  
Section 12:Biocummulative potential information information was added.  
Section 12: Component Ecotoxicity table Material column header information was added.  
Section 12: Component Ecotoxicity table CAS No column header information was added.  
Section 12: Component Ecotoxicity table Organism column header information was added.  
Section 12: Component Ecotoxicity table Type column header information was added.  
Section 12: Component Ecotoxicity table Exposure column header information was added.  
Section 12: Component Ecotoxicity table End point column header information was added.  
Section 12: Component Ecotoxicity table Result column header information was added.  
Section 12: Persistence and degradability table Material column header information was added.  
Section 12: Persistence and degradability table CAS No column header information was added.  
Section 12: Persistence and degradability table Test Type column header information was added.  
Section 12: Persistence and degradability table Duration column header information was added.  
Section 12: Persistence and degradability table Test Result column header information was added.  
Section 12: Persistence and degradability table Protocol column header information was added.  
Section 12:Biocummulative potential table Material column header information was added.  
Section 12:Biocummulative potential table CAS No column header information was added.

Section 12:Biocumulative potential table CAS No column header information was added.  
Section 12:Biocumulative potential table Test Result column header information was added.  
Section 12:Biocumulative potential table Protocol column header information was added.  
Section 12:Biocumulative potential table Test Type column header information was added.  
Label: CLP Percent Unknown information was added.  
Section 8: Occupational exposure limit table information was added.  
Section 8: Personal Protection - Respiratory Information information was added.  
Section 12: Persistence and degradability table Study Type column header information was added.  
Section 12:Biocumulative potential table Test Type column header information was added.  
Section 11: Disclosed components not in tables text information was added.  
Section 12: Classification Warning information was added.  
Section 11: Classification disclaimer information was added.  
Section 8: 8.1.1 Biological limit values table heading information was added.  
Section 8: BLV information was added.  
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.  
Prints No Data if Component ecotoxicity information is not present information was deleted.  
Prints No Data if Persistence and Degradability information is not present information was deleted.  
Prints No Data if Biocumulative potential information is not present information was deleted.  
Section 8: mg/m<sup>3</sup> key information was deleted.  
Section 8: ppm key information was deleted.  
Section 11: Classification disclaimer information was deleted.  
Section 11: Respiratory Sensitization Table information was deleted.  
Section 12: Classification Warning 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 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.

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