



## Safety Data Sheet

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<b>Transportation version number:</b>	2.00 (06/09/2014)		

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™ Scotch-Weld™ Epoxy Adhesive DP-460 EG

#### Product Identification Numbers

XA-0041-2212-4

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

##### Identified uses

Adhesive

#### 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:**

09-2129-6, 09-2119-7

### TRANSPORTATION INFORMATION

XA-0041-2212-4

**ADR/RID:** UN2735, AMINES, LIQUID, CORROSIVE, N.O.S. LIMITED QUANTITY, (CONTAINS 4,7,10-TRIOXATRIDEDECANE-1,13-DIAMINE3,3'Oxybis(ethyleneoxy)bis(propylamine)), 8., II , (E), ADR Classification Code: C7.  
**IMDG-CODE:** UN2735, AMINES, LIQUID, CORROSIVE, N.O.S., (CONTAINS 4,7,10-TRIOXATRIDEDECANE-1,13-DIAMINE3,3'Oxybis(ethyleneoxy)bis(propylamine)), 8., II , IMDG-Code segregation code: 18- ALKALIS, LIMITED QUANTITY, EMS: FA,SB.

ICAO/IATA: UN2735, AMINES, LIQUID, CORROSIVE, N.O.S., (CONTAINS 4,7,10-TRIOXATRIDECANE-1,13-DIAMINE3,3'Oxybis(ethyleneoxy)bis(propylamine)), 8., II .

## KIT LABEL

### 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 1B - Skin Corr. 1B; H314

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.

### 2.2. Label elements CLP REGULATION (EC) No 1272/2008

#### SIGNAL WORD

DANGER.

#### Symbols:

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

#### Pictograms



#### HAZARD STATEMENTS:

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H411 Toxic to aquatic life with long lasting effects.

#### PRECAUTIONARY STATEMENTS

##### Prevention:

P260A Do not breathe vapours.

P280D Wear protective gloves, protective clothing, and eye/face protection.

##### Response:

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

##### 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**

H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.

**<=125 ml Precautionary statements**

**Prevention:**

P260A Do not breathe vapours.  
P280D Wear protective gloves, protective clothing, and eye/face protection.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
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.

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

**Revision information:**

Section 1: Product name information was modified.  
Section 2: <125ml Precautionary - Response information was modified.  
Section 2: Additional label requirements phrase information was deleted.  
Section 2: H phrase reference information was added.  
Label: CLP Classification information was added.  
Label: CLP Precautionary - Prevention information was modified.  
Label: CLP Precautionary - Response information was modified.  
Label: Graphic Text information was deleted.  
Label: Graphic information was deleted.  
Section 2: Label remarks information was deleted.  
Section 2: Risk phrase information information was deleted.  
Safety phrase information was deleted.



## Safety Data Sheet

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<b>Transportation version number:</b>	1.00 (18/02/2011)		

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 DP-460 EG (Part A)

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

##### Identified uses

Adhesive

#### 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:

Serious Eye Damage/Eye Irritation, Category 1 - Eye Dam. 1; H318  
Skin Corrosion/Irritation, Category 1B - Skin Corr. 1B; H314  
Skin Sensitization, Category 1 - Skin Sens. 1; H317  
Hazardous to the Aquatic Environment (Chronic), Category 3 - Aquatic Chronic 3; H412

For full text of H phrases, see Section 16.

#### 2.2. Label elements

CLP REGULATION (EC) No 1272/2008

##### SIGNAL WORD

DANGER.

**Symbols:**

GHS05 (Corrosion) | GHS07 (Exclamation mark) |

**Pictograms**



**Ingredients:**

Ingredient	CAS Nbr	% by Wt
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	40 - 70
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	15 - 24
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	68610-41-3	7 - 13

**HAZARD STATEMENTS:**

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

**PRECAUTIONARY STATEMENTS**

**Prevention:**

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

**Response:**

P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.

**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**

H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

**<=125 ml Precautionary statements**

**Prevention:**

P260A	Do not breathe vapours.
P280D	Wear protective gloves, protective clothing, and eye/face protection.

## 3M Scotch-Weld™ Epoxy Adhesive DP-460 EG (Part A)

### Response:

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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.

### SUPPLEMENTAL INFORMATION

#### Supplemental Hazard Statements:

EUH205

Contains epoxy constituents. May produce an allergic reaction.

Contains 24% of components with unknown hazards to the aquatic environment.

#### 2.3. Other hazards

May cause chemical gastrointestinal burns.

## SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	224-207-2	01-2119963377-26	40 - 70	Skin Sens. 1, H317 Skin Corr. 1B, H314
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	500-033-5	01-2119456619-26	15 - 24	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	68610-41-3			7 - 13	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1B, H317
Silane, trimethoxyoctyl-, hydrolysis products with silica	92797-60-9	296-597-2		3 - 7	Substance with a Community level exposure limit in the workplace
2,4,6-Tris(dimethylaminomethyl)phenol	90-72-2	202-013-9		1 - 5	Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319

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 flush with large amounts of water for at least 15 minutes. Remove contaminated clothing. Get immediate medical attention. Wash clothing before reuse.

#### Eye contact

Immediately flush with large amounts of water for at least 15 minutes. Remove contact lenses if easy to do. Continue

## 3M Scotch-Weld™ Epoxy Adhesive DP-460 EG (Part A)

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

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

## 3M Scotch-Weld™ Epoxy Adhesive DP-460 EG (Part A)

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

### 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
Silicon dioxide	92797-60-9	UK HSC	TWA(as inhalable dust):6 mg/m <sup>3</sup> ;TWA(as respirable dust):2.4 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.

#### Derived no effect level (DNEL)

Ingredient	Degradation Product	Population	Human exposure pattern	DNEL
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	8.3 mg/kg bw/d
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Worker	Inhalation, Long-term exposure (8 hours), Local effects	1 mg/m <sup>3</sup>
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	59 mg/m <sup>3</sup>
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Worker	Inhalation, Short-term exposure, Local effects	13 mg/m <sup>3</sup>
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Worker	Inhalation, Short-term exposure, Systemic effects	176 mg/m <sup>3</sup>
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Worker	Dermal, Long-term exposure (8 hours), Systemic effects	8.3 mg/kg bw/d
4,4'-		Worker	Dermal, Short-term	8.3 mg/kg



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Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane			exposure, Systemic effects	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Worker	Inhalation, Long-term exposure (8 hours), Systemic effects	12.3 mg/m <sup>3</sup>
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Worker	Inhalation, Short-term exposure, Systemic effects	12.3 mg/m <sup>3</sup>

**Predicted no effect concentrations (PNEC)**

Ingredient	Degradation Product	Compartment	PNEC
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Freshwater	0.22 mg/l
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Freshwater sediments	0.809 mg/kg w.w.
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Intermittent releases to water	2.2 mg/l
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Marine water	0.022 mg/l
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Marine water sediments	0.0809 mg/kg w.w.
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Sewage Treatment Plant	125 mg/l
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Freshwater	0.003 mg/l
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Freshwater sediments	0.5 mg/kg w.w.
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Intermittent releases to water	0.013 mg/l
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Marine water	0.0003 mg/l

### 3M Scotch-Weld™ Epoxy Adhesive DP-460 EG (Part A)

epoxypropane			
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Marine water sediments	0.5 mg/kg w.w.
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Sewage Treatment Plant	10 mg/l

## 8.2. Exposure controls

In addition, refer to the annex for more information.

### 8.2.1. Engineering controls

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

### 8.2.2. Personal protective equipment (PPE)

#### Eye/face protection

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. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

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

Material	Thickness (mm)	Breakthrough Time
Polymer laminate	No data available	No data available
Fluoroelastomer	0.7	> 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.

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.

### 8.2.3. Environmental exposure controls

Refer to Annex

## SECTION 9: Physical and chemical properties

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

Physical state	Liquid.
Specific Physical Form:	Viscous.
Appearance/Odour	amber, very mild pungent odour.
Odour threshold	<i>No data available.</i>
pH	<i>Not applicable.</i>
Boiling point/boiling range	<i>No data available.</i>
Melting point	<i>Not applicable.</i>
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	$\geq 140$ °C [Test Method: Closed Cup]
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	$\leq 0.4$ Pa [@ 20 °C ]
Relative density	1.06 [Ref Std: WATER=1]
Water solubility	Negligible
Solubility- non-water	<i>No data available.</i>
Partition coefficient: n-octanol/water	<i>No data available.</i>
Evaporation rate	<i>Not applicable.</i>
Vapour density	<i>No data available.</i>
Decomposition temperature	<i>No data available.</i>
Viscosity	10,500 mPa-s [@ 20 °C ]
Density	1.06 g/ml

### 9.2. Other information

Molecular weight	<i>No data available.</i>
Percent volatile	0 % weight

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

### 10.2 Chemical stability

Stable.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

### 10.4 Conditions to avoid

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.

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### 10.5 Incompatible materials

Strong acids.

Strong oxidising agents.

### 10.6 Hazardous decomposition products

#### Substance

Toxic vapour, gas, particulate.

#### Condition

Not specified.

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**

May be harmful in contact with skin. Corrosive (skin burns): Signs/symptoms may include localised redness, swelling, itching, intense pain, blistering, ulceration, and tissue destruction. Allergic skin reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

#### **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**

May be harmful if swallowed.

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

#### **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
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
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	Dermal	Not available	LD50 3,000 mg/kg
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	Ingestion	Not available	LD50 > 34,000 mg/kg
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-	Dermal	Rat	LD50 > 1,600 mg/kg

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chloro-2,3-epoxypropane			
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Ingestion	Rat	LD50 > 1,000 mg/kg
Silane, trimethoxyoctyl-, hydrolysis products with silica	Dermal		LD50 estimated to be > 5,000 mg/kg
Silane, trimethoxyoctyl-, hydrolysis products with silica	Ingestion	Rat	LD50 > 5,340 mg/kg
2,4,6-Tris(dimethylaminomethyl)phenol	Dermal	Rat	LD50 1,280 mg/kg
2,4,6-Tris(dimethylaminomethyl)phenol	Ingestion	Rat	LD50 1,000 mg/kg

ATE = acute toxicity estimate

**Skin Corrosion/Irritation**

Name	Species	Value
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Rabbit	Corrosive
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	similar compounds	Irritant
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Rabbit	Mild irritant
2,4,6-Tris(dimethylaminomethyl)phenol	Rabbit	Corrosive

**Serious Eye Damage/Irritation**

Name	Species	Value
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	similar health hazards	Corrosive
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	similar compounds	Severe irritant
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Rabbit	Moderate irritant
2,4,6-Tris(dimethylaminomethyl)phenol	Rabbit	Corrosive

**Skin Sensitisation**

Name	Species	Value
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	similar compounds	Sensitising
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Human and animal	Sensitising
2,4,6-Tris(dimethylaminomethyl)phenol	Guinea pig	Some positive data exist, but the data are not sufficient for classification

**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
2,4,6-Tris(dimethylaminomethyl)phenol	In Vitro	Not mutagenic

**Carcinogenicity**

Name	Route	Species	Value
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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
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**Reproductive Toxicity**
**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
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
2,4,6-Tris(dimethylaminomethyl)phenol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	

**Specific Target Organ Toxicity - repeated exposure**

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4,4'-Isopropylidenediphenol, oligomeric reaction products with 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
2,4,6-Tris(dimethylaminomethyl)phenol	Dermal	skin   liver   nervous system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 125 mg/kg/day	28 days
2,4,6-Tris(dimethylaminomethyl)phenol	Dermal	auditory system   hematopoietic system   eyes	All data are negative	Rat	NOAEL 125 mg/kg/day	28 days

**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 Nbr	Organism	Type	Exposure	Test endpoint	Test result
2,4,6-Tris(dimethylaminomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	NOEC	6.25 mg/l
2,4,6-Tris(dimethylaminomethyl)phenol	90-72-2	Green algae	Experimental	72 hours	EC50	84 mg/l
2,4,6-Tris(dimethylaminomethyl)phenol	90-72-2	Grass Shrimp	Experimental	96 hours	LC50	718 mg/l
2,4,6-Tris(dimethylaminomethyl)phenol	90-72-2	Common Carp	Experimental	96 hours	LC50	175 mg/l
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Water flea	Estimated	21 days	NOEC	0.3 mg/l
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
Silane, trimethoxyoctyl-, hydrolysis products with silica	92797-60-9	Zebra Fish	Experimental	96 hours	NOEC	>=10,000 mg/l
Silane, trimethoxyoctyl-, hydrolysis products with	92797-60-9	Algae	Experimental	72 hours	EC50	>=10,000 mg/l

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silica						
Silane, trimethoxyoctyl-, hydrolysis products with silica	92797-60-9	Water flea	Experimental	24 hours	NOEC	>=10,000 mg/l
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	68610-41-3		Data not available or insufficient for classification			

**12.2. Persistence and degradability**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
2,4,6-Tris(dimethylaminomethyl)phenol	90-72-2	Experimental Biodegradation	28 days	BOD	4 % weight	OECD 301D - Closed bottle test
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Experimental Biodegradation	25 days	CO2 evolution	-8 % weight	OECD 301B - Modified sturm or CO2
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
Silane, trimethoxyoctyl-, hydrolysis products with silica	92797-60-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	68610-41-3	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-Isopropylidene diphenol, oligomeric	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	<2 days (t 1/2)	Other methods



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reaction products with 1-chloro-2,3-epoxypropane						
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**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
2,4,6-Tris(dimethylaminomethyl)phenol	90-72-2	Experimental Bioconcentration		Log Kow	-0.66	Other methods
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	Estimated Bioconcentration		Log Kow	-1.46	Estimated: Octanol-water partition coefficient
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Experimental BCF-Carp	28 days	Bioaccumulation factor	<=42	Other methods
Silane, trimethoxyoctyl-, hydrolysis products with silica	92797-60-9	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	68610-41-3	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

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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 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: UN2735; Amines, Liquid, Corrosive, N.O.S. (Contains 4, 7, 10 -Trioxatridecane -1, 13 -Diamine); 8; II; (E); C7.  
IMDG: UN2735; Amines, Liquid, Corrosive, N.O.S. (Contains 4, 7, 10 -Trioxatridecane -1, 13 -Diamine); 8; II; EMS: FA, SB.  
IATA: UN2735; Amines, Liquid, Corrosive, N.O.S. (Contains 4, 7, 10 -Trioxatridecane -1, 13 -Diamine); 8; II.

## 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 provisions of the Korea Chemical Control Act. 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. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory.

### 15.2. Chemical Safety Assessment

A chemical safety assessment has been carried out for the relevant substances in this material by the registrant in accordance with regulation REGULATION (EC) No 1907/2006

## SECTION 16: Other information

### List of relevant H statements

H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

**Revision information:**

- Industrial Application of Coatings: Section 16: Annex information was modified.
- Industrial Mixing and Application: Section 16: Annex information was modified.
- Label: CLP Percent Unknown information was modified.
- Label: CLP Supplemental Hazard Statements information was added.
- Section 3: Composition/ Information of ingredients table information was added.
- Section 3: Composition/ Information of ingredients table information was deleted.
- Section 8: Appropriate Engineering controls information information was modified.
- Section 8: glove data value information was added.
- Section 8: glove data value information was modified.
- Section 8: Occupational exposure limit table information was added.
- Section 8: Occupational exposure limit table information was modified.
- OEL Reg Agency Desc information was added.
- Section 8: Skin protection - protective clothing information information was modified.
- Section 8: STEL key information was added.
- Section 8: TWA key information was added.
- Section 11: Acute Toxicity table information was modified.
- Section 11: Health Effects - Skin information information was modified.
- Section 11: Serious Eye Damage/Irritation Table information was modified.
- Section 11: Skin Corrosion/Irritation Table information was modified.
- Section 11: Skin Sensitization Table information was modified.
- Section 12: Component ecotoxicity information information was modified.
- Section 12: Persistence and Degradability information information was modified.
- Section 12: Biocumulative potential information information was modified.
- Section 13: Standard Phrase Category Waste GHS information was modified.
- Section 15: Regulations - Inventories information was modified.

**Annex**

<b>1. Title</b>	
<b>Substance identification</b>	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane; EC No. 500-033-5; CAS Nbr 25068-38-6;
<b>Exposure Scenario Name</b>	Industrial Application of Coatings
<b>Identified uses</b>	PROC 05, ERC 05, SU 03 ; PROC 05, ERC 06a, SU 03 ; PROC 08a, ERC 05, SU 03 ; PROC 08a, ERC 06a, SU 03 ; PROC 10, ERC 05, SU 03 ; PROC 10, ERC 06a, SU 03 ; PROC 13, ERC 05, SU 03 ; PROC 13, ERC 06a, SU 03 ;
<b>Processes, tasks and activities covered</b>	Application of product. Mixing or blending of solid or liquid materials. Transfers without dedicated controls, including loading, filling, dumping, bagging.
<b>2. Operational conditions and risk management measures</b>	
<b>Operating Conditions</b>	<b>Physical state:</b> Liquid. <b>General operating conditions:</b> Duration of use: 8 hours/day; Emission days per year: 300 days/year;
<b>Risk management measures</b>	Under the operational conditions described above the following risk management measures apply: <b>General risk management measures:</b>

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	<p><b>Human health:</b> Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.;</p> <p><b>Environmental:</b> None needed;</p> <p>;</p> <p>The following task-specific risk management measures apply in addition to those listed above:</p> <p><b>Task: PROC10;</b> <b>Human Health;</b> Provide extract ventilation to points where emissions occur;</p>
<b>Waste management measures</b>	<p>Do not apply industrial sludge to natural soils; Prevent discharge of undissolved substance to or recover from wastewater; Prevent leaks and prevent soil / water pollution caused by leaks; Sludge should be incinerated, contained or reclaimed;</p>
<b>3. Prediction of exposure</b>	
<b>Prediction of exposure</b>	Human and environmental exposures are not expected to exceed the DNELs and PNECs when the identified risk management measures are adopted.

<b>1. Title</b>	
<b>Substance identification</b>	3,3'-Oxybis(ethyleneoxy)bis(propylamine); EC No. 224-207-2; CAS Nbr 4246-51-9;
<b>Exposure Scenario Name</b>	Industrial Mixing and Application
<b>Identified uses</b>	PROC 04, ERC 06d, SU 03 ; PROC 05, ERC 06d, SU 03 ;
<b>Processes, tasks and activities covered</b>	Charging material in open systems where significant opportunity for exposure arises e.g. charging from open drum. Mixing or blending of solid or liquid materials.
<b>2. Operational conditions and risk management measures</b>	
<b>Operating Conditions</b>	<p><b>Physical state:</b>Liquid.</p> <p><b>General operating conditions:</b> Duration of use: 8 hours/day; Frequency of exposure at workplace [for one worker]: 5 days/week; Indoor use;</p>
<b>Risk management measures</b>	<p>Under the operational conditions described above the following risk management measures apply:</p> <p><b>General risk management measures:</b> <b>Human health:</b> Goggles - Chemical resistant; Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.;</p> <p><b>Environmental:</b> None needed;</p>
<b>Waste management measures</b>	No use-specific waste management measures are required for this product. Refer to Section 13 of main SDS for disposal instructions:
<b>3. Prediction of exposure</b>	
<b>Prediction of exposure</b>	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.

**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>	1.00 (01/10/2010)		

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 DP-460 EG (Part B)

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

##### Identified uses

Adhesive

#### 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:

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.

#### 2.2. Label elements

CLP REGULATION (EC) No 1272/2008

##### SIGNAL WORD

WARNING.

**Symbols:**

GHS07 (Exclamation mark) |GHS09 (Environment) |

**Pictograms**



**Ingredients:**

Ingredient	CAS Nbr	% by Wt
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	60 - 100

**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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**Response:**

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

**Supplemental Hazard Statements:**

EUH205	Contains epoxy constituents. May produce an allergic reaction.
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## 3M Scotch-Weld Epoxy Adhesive DP-460 EG (Part B)

4% of the mixture consists of components of unknown acute oral toxicity.

Contains 4% of components with unknown hazards to the aquatic environment.

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EC No.	REACH Registration No.	% by Wt	Classification
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	500-033-5	01-2119456619-26	60 - 100	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411

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

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



### 3M Scotch-Weld Epoxy Adhesive DP-460 EG (Part B)

#### Substance

Aldehydes.  
Carbon monoxide.  
Carbon dioxide.

#### Condition

During combustion.  
During combustion.  
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. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

#### 6.2. Environmental precautions

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

#### 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

Avoid breathing of vapours created during the cure cycle. 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 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

No occupational exposure limit values exist for any of the components listed in Section 3 of this Safety Data Sheet.

##### Biological limit values

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

**3M Scotch-Weld Epoxy Adhesive DP-460 EG (Part B)**

**Derived no effect level (DNEL)**

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

**Predicted no effect concentrations (PNEC)**

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

## 3M Scotch-Weld Epoxy Adhesive DP-460 EG (Part B)

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

In addition, refer to the annex for more information.

#### 8.2.1. Engineering controls

Provide ventilated enclosure for heat curing. Curing enclosures must be exhausted to outdoors or to a suitable emission control device.

#### 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.

##### 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. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

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

Material	Thickness (mm)	Breakthrough Time
Butyl rubber.	No data available	No data available
Fluoroelastomer	No data available	No data available
Polymer laminate	No data available	No data available

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 – Butyl rubber

Apron - polymer laminate

##### Respiratory protection

Respiratory protection is not required.

#### 8.2.3. Environmental exposure controls

Refer to Annex

## SECTION 9: Physical and chemical properties

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

Physical state	Liquid.
Specific Physical Form:	Viscous.
Appearance/Odour	white, very mild odour.
Odour threshold	No data available.
pH	Not applicable.
Boiling point/boiling range	No data available.
Melting point	Not applicable.

## 3M Scotch-Weld Epoxy Adhesive DP-460 EG (Part B)

<b>Flammability (solid, gas)</b>	Not applicable.
<b>Explosive properties</b>	Not classified
<b>Oxidising properties</b>	Not classified
<b>Flash point</b>	$\geq 170$ °C [ <i>Test Method</i> : Closed Cup]
<b>Autoignition temperature</b>	<i>No data available.</i>
<b>Flammable Limits(LEL)</b>	<i>No data available.</i>
<b>Flammable Limits(UEL)</b>	<i>No data available.</i>
<b>Vapour pressure</b>	$\leq 4$ Pa [ <i>@ 20 °C</i> ]
<b>Relative density</b>	1.16 [ <i>Ref Std</i> : WATER=1]
<b>Water solubility</b>	Negligible
<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>	Nil
<b>Decomposition temperature</b>	<i>No data available.</i>
<b>Viscosity</b>	100,000 mPa-s [ <i>@ 20 °C</i> ]
<b>Density</b>	1.16 g/ml

### 9.2. Other information

<b>Molecular weight</b>	<i>No data available.</i>
<b>Percent volatile</b>	0 % weight

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section

### 10.2 Chemical stability

Stable.

### 10.3 Possibility of hazardous reactions

Hazardous polymerisation will not occur.

### 10.4 Conditions to avoid

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>
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

No health effects are expected.

#### Skin contact

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

#### Eye contact

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

#### Ingestion

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

#### 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

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

#### Serious Eye Damage/Irritation

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

#### 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

**3M Scotch-Weld Epoxy Adhesive DP-460 EG (Part B)****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

**Reproductive Toxicity****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**

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

**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

**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 Nbr	Organism	Type	Exposure	Test endpoint	Test result
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Water flea	Estimated	21 days	NOEC	0.3 mg/l
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

**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	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Estimated Hydrolysis		Hydrolytic half-life	<2 days (t 1/2)	Other methods

**12.3 : Bioaccumulative potential**

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
4,4'-Isopropylidene diphenol,	25068-38-6	Experimental BCF-Carp	28 days	Bioaccumulation factor	<=42	Other methods

### 3M Scotch-Weld Epoxy Adhesive DP-460 EG (Part B)

oligomeric reaction products with 1-chloro-2,3- epoxypropane						
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#### 12.4. Mobility in soil

Please contact manufacturer for more details

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

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

#### 12.6. Other adverse effects

No information available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

See Section 11.1 Information on toxicological effects

Dispose of completely cured (or polymerised) material in a permitted industrial waste 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. As a disposal alternative, utilize an acceptable permitted waste disposal facility. If no other disposal options are available, waste product that has been completely cured or polymerised may be placed in a landfill properly designed for industrial waste. 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 product are in compliance with the chemical notification requirements of TSCA.



## 15.2. Chemical Safety Assessment

A chemical safety assessment has been carried out for the relevant substances in this material by the registrant in accordance with regulation REGULATION (EC) No 1907/2006

## SECTION 16: Other information

### List of relevant H statements

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

### Revision information:

Industrial Application of Coatings: Section 16: Annex information was modified.  
 Label: CLP Percent Unknown information was added.  
 Label: CLP Supplemental Hazard Statements information was added.  
 Section 3: Composition/ Information of ingredients table information was added.  
 Section 3: Composition/ Information of ingredients table information was deleted.  
 Section 6: Accidental release environmental information information was modified.  
 Section 6: Accidental release personal information information was modified.  
 Section 7: Precautions safe handling information information was modified.  
 Section 8: Appropriate Engineering controls information information was modified.  
 Section 8: glove data value information was modified.  
 Section 8: Personal Protection - Skin/hand information information was modified.  
 Section 8: Skin protection - protective clothing information information was modified.  
 Section 11: Acute Toxicity table information was modified.  
 Section 11: Carcinogenicity Table information was modified.  
 Section 11: Germ Cell Mutagenicity 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: Skin Sensitization Table information was modified.  
 Section 11: Target Organs - Repeated Table information was modified.  
 Section 12: Component ecotoxicity information information was modified.  
 Section 12: Persistence and Degradability information information was modified.  
 Section 12: Biocumulative potential information 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.

## Annex

1. Title	
<b>Substance identification</b>	4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane; EC No. 500-033-5; CAS Nbr 25068-38-6;
<b>Exposure Scenario Name</b>	Industrial Application of Coatings
<b>Identified uses</b>	PROC 05, ERC 05, SU 03 ; PROC 05, ERC 06a, SU 03 ; PROC 08a, ERC 05, SU 03 ; PROC 08a, ERC 06a, SU 03 ; PROC 10, ERC 05, SU 03 ;

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	PROC 10, ERC 06a, SU 03 ; PROC 13, ERC 05, SU 03 ; PROC 13, ERC 06a, SU 03 ;
<b>Processes, tasks and activities covered</b>	Application of product. Mixing or blending of solid or liquid materials. Transfers without dedicated controls, including loading, filling, dumping, bagging.
<b>2. Operational conditions and risk management measures</b>	
<b>Operating Conditions</b>	<b>Physical state:</b> Liquid. <b>General operating conditions:</b> Duration of use: 8 hours/day; Emission days per year: 300 days/year;
<b>Risk management measures</b>	Under the operational conditions described above the following risk management measures apply: <b>General risk management measures:</b> <b>Human health:</b> Wear chemically resistant gloves (tested to EN374) in combination with ‘basic’ employee training.; <b>Environmental:</b> None needed; ; The following task-specific risk management measures apply in addition to those listed above: <b>Task: PROC10;</b> <b>Human Health;</b> Provide extract ventilation to points where emissions occur;
<b>Waste management measures</b>	Do not apply industrial sludge to natural soils; Prevent discharge of undissolved substance to or recover from wastewater; Prevent leaks and prevent soil / water pollution caused by leaks; Sludge should be incinerated, contained or reclaimed;
<b>3. Prediction of exposure</b>	
<b>Prediction of exposure</b>	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.

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