Safety Data Sheet

Document group:	11-1417-2	**Version number:**	12.03
Revision date:	15/12/2015	**Supersedes date:**	02/12/2015

Transportation version number: 9.02 (15/12/2015)

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 Potting Compound/Adhesive DP270 Black

Product Identification Numbers
62-3266-1435-1 62-3266-3530-7 FS-9100-4315-7

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 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:

11-1418-0, 19-0425-9

TRANSPORTATION INFORMATION

62-3266-1435-1, 62-3266-3530-7, FS-9100-4315-7

ADR/RID: UN2810, TOXIC LIQUID, ORGANIC, N.O.S. LIMITED QUANTITY, (4,4-METHYLENEBIS(2-METHYLCYCLOHEXYLAMINE)), 6.1, III, (E), ADR Classification Code: T1.
IMDG-CODE: UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (4,4-METHYLENEBIS(2-METHYLCYCLOHEXYLAMINE)), 6.1, III, IMDG-Code segregation code: NONE, LIMITED QUANTITY, EMS: FA,SA.
ICAO/IATA: UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (4,4-METHYLENEBIS(2-

METHYLCYCLOHEXYLAMINE)), 6.1, III.

KIT LABEL

2.1. Classification of the substance or mixture
CLP REGULATION (EC) No 1272/2008

CLASSIFICATION:
Substance or Mixture Corrosive to Metals, Category 1 - Met. Corr. 1; H290
Acute Toxicity, Category 2 - Acute Tox. 2; H330
Acute Toxicity, Category 3 - Acute Tox. 3; H311
Acute Toxicity, Category 4 - Acute Tox. 4; H302
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Skin Sensitization, Category 1 - Skin Sens. 1; H317
Reproductive Toxicity, Category 1B - Repr. 1B; H360
Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

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

SIGNAL WORD
DANGER.

Symbols:
GHS05 (Corrosion) | GHS06 (Skull and crossbones) | GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

HAZARD STATEMENTS:

H290	May be corrosive to metals.
H330	Fatal if inhaled.
H311	Toxic in contact with skin.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H360Fd	May damage fertility. Suspected of damaging the unborn child
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260A	Do not breathe vapours.
P280C	Wear protective gloves and protective clothing.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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

H330	Fatal if inhaled.
H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H360Fd	May damage fertility. Suspected of damaging the unborn child

<=125 ml Precautionary statements

Prevention:

P260A	Do not breathe vapours.
P280C	Wear protective gloves and protective clothing.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTRE or doctor/physician.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P308 + P313	IF exposed or concerned: Get medical advice/attention.

SUPPLEMENTAL INFORMATION

Supplemental Precautionary Statements:
Restricted to professional users.

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

Notes on labelling

Test results indicate this material meets the classification criteria for eye and skin irritation, but not corrosion.

Revision information:

Section 1: Product identification numbers information was modified.

Safety Data Sheet

Document group:	11-1418-0	**Version number:**	17.00
Revision date:	22/12/2015	**Supersedes date:**	11/05/2015

Transportation version number: 1.00 (11/07/2011)

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 Potting Compound/Adhesive DP270 Black, 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 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
Reproductive Toxicity, Category 1B - Repr. 1B; H360
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:
GHS07 (Exclamation mark) | GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	% by Wt
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	90 - 99
Benzene, ethenyl-, homopolymer (oligomeric)	9003-53-6	1 - 10

HAZARD STATEMENTS:

H319	Causes serious eye irritation.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

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

Response:

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P308 + P313	IF exposed or concerned: Get medical advice/attention.

Disposal:

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

SUPPLEMENTAL INFORMATION

Supplemental Precautionary Statements:
Restricted to professional users.

5% of the mixture consists of components of unknown acute oral toxicity.

Contains 5% of components with unknown hazards to the aquatic environment.

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	90 - 99	Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411 (CLP)
Benzene, ethenyl-, homopolymer (oligomeric)	9003-53-6	NLP 500-008-9	1 - 10	Repr. 1B, H360F (Self Classified)
Carbon black	1333-86-4	EINECS 215-609-9	<= 1	

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

Substance	Condition
Aldehydes.	During combustion.
Hydrocarbons.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Ketones.	During combustion.
Toxic vapour, gas, particulate.	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
For industrial or professional use only. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
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
Carbon black	1333-86-4	UK HSC	TWA: 3.5 mg/m³; STEL: 7 mg/m³	

UK HSC : UK Health and Safety Commission
TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit
CEIL: Ceiling

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

8.2. Exposure controls

In addition, refer to the annex for more information.

8.2.1. Engineering controls
Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapours/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:
Indirect vented goggles.

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

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.
Appearance/Odour	black, very mild odour.
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	> 148.9 ºC
Melting point	*No data available.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified

Oxidising properties	Not classified
Flash point	> 93.3 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*Not applicable.*
Flammable Limits(UEL)	*Not applicable.*
Vapour pressure	<=186,140.2 Pa [@ 55 ºC]
Relative density	1.15 [*Ref Std:*WATER=1]
Water solubility	Nil
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	*Not applicable.*
Decomposition temperature	*No data available.*
Viscosity	13 - 16 Pa-s [*Details:*CONDITIONS: (@ Room Temperature)]
Density	1.15 g/ml

9.2. Other information

Molecular weight	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat 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

Substance	**Condition**
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 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. May cause additional health effects (see below).

Additional Health Effects:

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	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
Carbon black	Dermal	Rabbit	LD50 > 3,000 mg/kg
Carbon black	Ingestion	Rat	LD50 > 8,000 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
Carbon black	Rabbit	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
Carbon black	Rabbit	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
Carbon black	In Vitro	Not mutagenic
Carbon black	In vivo	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
Carbon black	Dermal	Mouse	Not carcinogenic
Carbon black	Ingestion	Mouse	Not carcinogenic
Carbon black	Inhalation	Rat	Carcinogenic.

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
Benzene, ethenyl-, homopolymer (oligomeric)	Ingestion	Toxic to female reproduction	Rat	NOAEL 5 mg/kg/day	premating into lactation

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-	Dermal	nervous system	All data are negative	Rat	NOAEL 1,000 mg/kg/day	13 weeks

2,3-epoxypropane						
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
Carbon black	Inhalation	pneumoconiosis	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure

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

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

SECTION 12: Ecological information

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

12.1. Toxicity

No product test data available.

Material	CAS Nbr	Organism	Type	Exposure	Test endpoint	Test result
Benzene, ethenyl-, homopolymer (oligomeric)	9003-53-6		Data not available or insufficient for classification			
Carbon black	1333-86-4		Data not available or insufficient for classification			
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
4,4'-Isopropylidene diphenol,	25068-38-6	Water flea	Estimated	21 days	NOEC	0.3 mg/l

oligomeric reaction products with 1-chloro-2,3-epoxypropane						

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
Carbon black	1333-86-4	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Laboratory 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	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)
Benzene, ethenyl-, homopolymer (oligomeric)	9003-53-6	Data not available or insufficient for classification	N/A	N/A	N/A	N/A
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	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
Carbon black	1333-86-4	Data not available or	N/A	N/A	N/A	N/A

		insufficient for classification				
4,4'-Isopropylidene diphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	Laboratory BCF - Other	28 days	Bioaccumulation factor	<42	Other methods
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
Benzene, ethenyl-, homopolymer (oligomeric)	9003-53-6	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. 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

SECTION 14: Transportation information

ADR/IMDG/IATA: Not restricted for transport.

SECTION 15: Regulatory information

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

Carcinogenicity

Ingredient	CAS Nbr	Classification	Regulation
Benzene, ethenyl-, homopolymer (oligomeric)	9003-53-6	Gr. 3: Not classifiable	International Agency for Research on Cancer
Carbon black	1333-86-4	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the 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

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.
H360F	May damage fertility.
H411	Toxic to aquatic life with long lasting effects.

Revision information:

Section 2: Additional label requirements phrase information was deleted.
CLP: Ingredient table information was modified.
Section 2: Indication of danger information information was deleted.
Label: CLP Percent Unknown information was added.
Label: CLP Precautionary - Prevention information was modified.
Label: Graphic Text information was deleted.
Label: Graphic information was deleted.
Section 2: Label ingredient information information was deleted.
Section 2: Label remarks information was deleted.
Section 2: R phrase reference information was deleted.
Risk phrase information was deleted.
Safety phrase information was deleted.
Section 3: Composition/ Information of ingredients table information was modified.

Section 3: Reference to H statement explanation in Section 016 information was added.
Section 3: Reference to R and H statement explanation in Section 16 information was deleted.
Section 3: Reference to section 15 for Nota info information was deleted.
Section 8: 8.2. Exposure controls information information was added.
Section 8: 8.2.3. Environmental exposure controls information information was added.
Section 8: Occupational exposure limit table information was modified.
Section 9: Property description for optional properties information was added.
Section 9: Property description for optional properties information was deleted.
Section 9: Relative density information information was modified.
Section 9: Vapour pressure value 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: Health Effects - Ingestion information information was modified.
Section 11: Reproductive Toxicity Table information was modified.
Section 11: Serious Eye Damage/Irritation Table information was modified.
Section 11: Skin Corrosion/Irritation Table information was modified.
Section 11: Target Organs - Repeated Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 13: EU waste code (product as sold) information information was modified.
Section 14: Transportation classification information was modified.
Section 15: Carcinogenicity information information was modified.
Section 15: Chemical Safety Assessment information was modified.
Section 15: Label remarks and EU Detergent information was deleted.
Section 15: Regulations - Inventories information was modified.
Section 16: List of relevant R phrase information information was deleted.
Section 16: List of relevant R-phrases information was deleted.

Annex

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

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

Safety Data Sheet

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Transportation version number: 1.00 (31/08/2011)

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 Potting Compound/Adhesive DP270 Black, 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 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:
Acute Toxicity, Category 2 - Acute Tox. 2; H330
Acute Toxicity, Category 3 - Acute Tox. 3; H311
Acute Toxicity, Category 4 - Acute Tox. 4; H302
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Reproductive Toxicity, Category 2 - Repr. 2; H361
Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols:
GHS06 (Skull and crossbones) | GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	% by Wt
4-Nonylphenol, branched	84852-15-3	40 - 60
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	15 - 40
Benzyl alcohol	100-51-6	7 - 13

HAZARD STATEMENTS:

H330	Fatal if inhaled.
H311	Toxic in contact with skin.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260A	Do not breathe vapours.
P280C	Wear protective gloves and protective clothing.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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

H330	Fatal if inhaled.
H311	Toxic in contact with skin.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

<=125 ml Precautionary statements

Prevention:

P260A	Do not breathe vapours.
P280C	Wear protective gloves and protective clothing.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTRE or doctor/physician.

3% of the mixture consists of components of unknown acute oral toxicity.
3% of the mixture consists of components of unknown acute dermal toxicity.
60% of the mixture consists of components of unknown acute inhalation toxicity.

Notes on labelling

Test results indicate this material meets the classification criteria for eye and skin irritation, but not corrosion.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
4-Nonylphenol, branched	84852-15-3	EINECS 284-325-5	40 - 60	Acute Tox. 4, H302; Skin Corr. 1B, H314; Repr. 2, H361df; Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=10 (CLP)
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	EINECS 229-962-1	15 - 40	Acute Tox. 2, H330; Acute Tox. 3, H311; Acute Tox. 4, H302; Skin Corr. 1A, H314; Aquatic Chronic 2, H411 (CLP)
Benzyl alcohol	100-51-6	EINECS 202-859-9	7 - 13	Acute Tox. 4, H332; Acute Tox. 4, H302 (CLP)
Dibenzyl Ether	103-50-4	EINECS 203-118-2	< 0.5	Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1 (Self Classified)

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. Get medical attention. Wash clothing before reuse.

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

attention.

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

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

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

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Amine compounds.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Oxides of nitrogen.	During combustion.
Toxic vapour, gas, particulate.	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 metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. 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. 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. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Store 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.

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:
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

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.
Appearance/Odour	clear, very mild pungent odour.
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	205 ºC [*Details:*CONDITIONS: @ 760mm Hg (benzyl alcohol)]
Melting point	*No data available.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	> 115.6 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	13.3 Pa [*Details:*CONDITIONS: @ 86F (30C); 13.3mm Hg @ 212F (100C).]
Relative density	1 [*Ref Std:*WATER=1]
Water solubility	Slight (less than 10%)
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	3.72 [*Ref Std:*AIR=1]
Decomposition temperature	*No data available.*
Viscosity	12 - 15 Pa-s [*Details:*CONDITIONS: (@ Room Temperature)]
Density	1 g/ml

9.2. Other information

Molecular weight	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat 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

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

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

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

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

Additional Health Effects:

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 ATE200 - 1,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE1 - 5 mg/l
Overall product	Ingestion		No data available; calculated ATE300 - 2,000 mg/kg
4-Nonylphenol, branched	Dermal	Rabbit	LD50 > 2,000 mg/kg
4-Nonylphenol, branched	Ingestion	Rat	LD50 1,531 mg/kg
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Dermal	Rabbit	LD50 > 200 mg/kg
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation-Dust/Mist	Rat	LC50 0.42 mg/l

	(4 hours)		
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Rat	LD50 > 320 mg/kg
Benzyl alcohol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 8.8 mg/l
Benzyl alcohol	Ingestion	Rat	LD50 1,230 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	In vitro data	Irritant
4-Nonylphenol, branched	Rabbit	Corrosive
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Rabbit	Corrosive
Benzyl alcohol	Multiple animal species	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	similar health hazards	Severe irritant
4-Nonylphenol, branched	Rabbit	Corrosive
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Rabbit	Corrosive
Benzyl alcohol	Rabbit	Severe irritant

Skin Sensitisation

Name	Species	Value
4-Nonylphenol, branched	Guinea pig	Not sensitising
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Guinea pig	Not sensitising
Benzyl alcohol	Human and animal	Some positive data exist, but the data are not sufficient for classification

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
4-Nonylphenol, branched	In Vitro	Not mutagenic
4-Nonylphenol, branched	In vivo	Not mutagenic
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	In Vitro	Not mutagenic
Benzyl alcohol	In vivo	Not mutagenic
Benzyl alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Benzyl alcohol	Ingestion	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
4-Nonylphenol, branched	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	28 days
4-Nonylphenol, branched	Ingestion	Toxic to female reproduction	official classification	NOAEL Not available	
4-Nonylphenol, branched	Ingestion	Toxic to development	official classification	NOAEL Not available	
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 12 mg/kg/day	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.048 mg/l	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 45 mg/kg/day	during gestation
Benzyl alcohol	Ingestion	Not toxic to development	Mouse	NOAEL 550 mg/kg/day	during organogenesis

Lactation

Name	Route	Species	Value
4-Nonylphenol, branched	Ingestion	Rat	Does not cause effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	
Benzyl alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Benzyl alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Benzyl alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4-Nonylphenol, branched	Ingestion	endocrine system | hematopoietic system | liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	28 days
4-Nonylphenol, branched	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 150 mg/kg/day	90 days
4-Nonylphenol, branched	Ingestion	heart | bone, teeth, nails, and/or hair | immune system | muscles | nervous system | respiratory system	All data are negative	Rat	NOAEL 150 mg/kg/day	90 days
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.012 mg/l	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	endocrine system | liver | kidney and/or bladder | respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.048 mg/l	3 months

2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	skin	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.5 mg/kg/day	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	hematopoietic system | liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 12 mg/kg/day	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	endocrine system | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 60 mg/kg/day	3 months
Benzyl alcohol	Ingestion	endocrine system | muscles | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	13 weeks
Benzyl alcohol	Ingestion	nervous system | respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 645 mg/kg/day	8 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-Nonylphenol, branched	84852-15-3	Crustacea other	Experimental	96 hours	EC50	0.043 mg/l
4-Nonylphenol, branched	84852-15-3	Fathead minnow	Experimental	33 days	NOEC	0.0074 mg/l
4-Nonylphenol, branched	84852-15-3	Crustacea other	Experimental	28 days	NOEC	0.0039 mg/l
4-Nonylphenol, branched	84852-15-3	Fathead minnow	Experimental	96 hours	LC50	0.128 mg/l
4-Nonylphenol, branched	84852-15-3	Diatom	Experimental	96 hours	EC50	0.027 mg/l
Benzyl alcohol	100-51-6	Water flea	Experimental	48 hours	EC50	360 mg/l
Benzyl alcohol	100-51-6	Algae	Experimental	96 hours	EC50	640 mg/l
Benzyl alcohol	100-51-6	Fathead minnow	Experimental	96 hours	LC50	460 mg/l
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Green Algae	Experimental	72 hours	NOEC	0.36 mg/l
2,2'-Dimethyl-4,4'-	6864-37-5	Ricefish	Experimental	96 hours	LC50	22 mg/l

methylenebis(cyclohexylamine)						
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Water flea	Experimental	48 hours	EC50	4.6 mg/l
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Green algae	Experimental	96 hours	EC50	6.1 mg/l
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Water flea	Experimental	21 days	NOEC	4 mg/l
Dibenzyl Ether	103-50-4	Green Algae	Experimental	72 hours	NOEC	0.32 mg/l
Dibenzyl Ether	103-50-4	Ricefish	Experimental	96 hours	LC50	6.8 mg/l
Dibenzyl Ether	103-50-4	Green Algae	Experimental	72 hours	EC50	4.1 mg/l
Dibenzyl Ether	103-50-4	Water flea	Experimental	48 hours	EC50	0.77 mg/l
Dibenzyl Ether	103-50-4	Water flea	Experimental	21 days	NOEC	0.098 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
4-Nonylphenol, branched	84852-15-3	Estimated Photolysis		Photolytic half-life (in air)	7.5 hours (t 1/2)	Other methods
Dibenzyl Ether	103-50-4	Estimated Photolysis		Photolytic half-life (in air)	1.26 days (t 1/2)	Other methods
Benzyl alcohol	100-51-6	Experimental Biodegradation	14 days	BOD	94 % weight	OECD 301C - MITI test (I)
Dibenzyl Ether	103-50-4	Experimental Biodegradation	14 days	BOD	0 % weight	OECD 301C - MITI test (I)
4-Nonylphenol, branched	84852-15-3	Experimental Biodegradation	28 days	CO2 evolution	53 % weight	OECD 301B - Modified sturm or CO2
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Experimental BCF-Carp	60 days	Bioaccumulation factor	60	Other methods
Dibenzyl Ether	103-50-4	Experimental BCF-Carp	56 days	Bioaccumulation factor	429	Other methods
4-Nonylphenol,	84852-15-3	Experimental	16 days	Bioaccumulatio	2168	Other methods

branched		BCF - Other		n factor		
Benzyl alcohol	100-51-6	Experimental Bioconcentration		Log Kow	1.10	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. 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

IATA: UN2810; Toxic Liquid, Organic, N.O.S. (4,4-Methylenebis(2-Methylcyclohexylamine); 6.1; III.
ADR: UN2810; Toxic Liquid, Organic, N.O.S. (4,4-Methylenebis(2-Methylcyclohexylamine)); 6.1; III; (E); T1.
IMDG: UN2810; Toxic Liquid, Organic, N.O.S. (4,4-Methylenebis(2-Methylcyclohexylamine); 6.1; III; FA, SA.

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

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H361df	Suspected of damaging fertility. Suspected of damaging the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Revision information:

CLP: Ingredient table information was modified.
Section 2: Indication of danger information information was deleted.
Label: CLP Classification information was modified.
Label: CLP Precautionary - Prevention information was modified.
Label: Graphic Text information was deleted.
Label: Graphic information was deleted.
Label: Graphic information was modified.
Section 2: Label ingredient information information was deleted.
Section 2: Label remarks information was deleted.
Section 2: R phrase reference information was deleted.
Risk phrase information was deleted.
Safety phrase information was deleted.
Section 3: Composition/ Information of ingredients table information was modified.
Section 3: Reference to H statement explanation in Section 016 information was added.
Section 3: Reference to R and H statement explanation in Section 16 information was deleted.
Section 3: Reference to section 15 for Nota info information was deleted.
Section 9: Property description for optional properties information was added.
Section 9: Property description for optional properties information was deleted.
Section 9: Relative density 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: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Skin information 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 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 14: Transportation classification information was modified.
Section 15: Regulations - Inventories information was modified.
Section 16: List of relevant R phrase information information was deleted.
Section 16: List of relevant R-phrases information was deleted.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.

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

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

Safety Data Sheet

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Transportation version number: 1.00 (31/08/2011)

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 Potting Compound/Adhesive DP270 Black, 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 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:
Acute Toxicity, Category 2 - Acute Tox. 2; H330
Acute Toxicity, Category 3 - Acute Tox. 3; H311
Acute Toxicity, Category 4 - Acute Tox. 4; H302
Serious Eye Damage/Eye Irritation, Category 2 - Eye Irrit. 2; H319
Skin Corrosion/Irritation, Category 2 - Skin Irrit. 2; H315
Reproductive Toxicity, Category 2 - Repr. 2; H361
Hazardous to the Aquatic Environment (Acute), Category 1 - Aquatic Acute 1; H400
Hazardous to the Aquatic Environment (Chronic), Category 1 - Aquatic Chronic 1; H410

For full text of H phrases, see Section 16.

2.2. Label elements

CLP REGULATION (EC) No 1272/2008

SIGNAL WORD
DANGER.

Symbols:
GHS06 (Skull and crossbones) | GHS08 (Health Hazard) |GHS09 (Environment) |

Pictograms

Ingredients:

Ingredient	CAS Nbr	% by Wt
4-Nonylphenol, branched	84852-15-3	40 - 60
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	15 - 40
Benzyl alcohol	100-51-6	7 - 13

HAZARD STATEMENTS:

H330	Fatal if inhaled.
H311	Toxic in contact with skin.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H410	Very toxic to aquatic life with long lasting effects.

PRECAUTIONARY STATEMENTS

Prevention:

P260A	Do not breathe vapours.
P280C	Wear protective gloves and protective clothing.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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

H330	Fatal if inhaled.
H311	Toxic in contact with skin.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

<=125 ml Precautionary statements

Prevention:

P260A	Do not breathe vapours.
P280C	Wear protective gloves and protective clothing.

Response:

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTRE or doctor/physician.

3% of the mixture consists of components of unknown acute oral toxicity.
3% of the mixture consists of components of unknown acute dermal toxicity.
60% of the mixture consists of components of unknown acute inhalation toxicity.

Notes on labelling

Test results indicate this material meets the classification criteria for eye and skin irritation, but not corrosion.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
4-Nonylphenol, branched	84852-15-3	EINECS 284-325-5	40 - 60	Acute Tox. 4, H302; Skin Corr. 1B, H314; Repr. 2, H361df; Aquatic Acute 1, H400,M=10; Aquatic Chronic 1, H410,M=10 (CLP)
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	EINECS 229-962-1	15 - 40	Acute Tox. 2, H330; Acute Tox. 3, H311; Acute Tox. 4, H302; Skin Corr. 1A, H314; Aquatic Chronic 2, H411 (CLP)
Benzyl alcohol	100-51-6	EINECS 202-859-9	7 - 13	Acute Tox. 4, H332; Acute Tox. 4, H302 (CLP)
Dibenzyl Ether	103-50-4	EINECS 203-118-2	< 0.5	Aquatic Acute 1, H400,M=1; Aquatic Chronic 1, H410,M=1 (Self Classified)

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. Get medical attention. Wash clothing before reuse.

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

attention.

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

4.2. Most important symptoms and effects, both acute and delayed
See Section 11.1 Information on toxicological effects

4.3. Indication of any immediate medical attention and special treatment required
Not applicable

SECTION 5: Fire-fighting measures

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

5.2. Special hazards arising from the substance or mixture
None inherent in this product.

Hazardous Decomposition or By-Products

Substance	Condition
Amine compounds.	During combustion.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.
Oxides of nitrogen.	During combustion.
Toxic vapour, gas, particulate.	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 metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. 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. 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. Avoid release to the environment. Wash contaminated clothing before reuse. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) Use personal protective equipment (eg. gloves, respirators…) as required.

7.2. Conditions for safe storage including any incompatibilities
Store 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.

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:
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

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.
Appearance/Odour	clear, very mild pungent odour.
Odour threshold	*No data available.*
pH	*Not applicable.*
Boiling point/boiling range	205 ºC [*Details:*CONDITIONS: @ 760mm Hg (benzyl alcohol)]
Melting point	*No data available.*
Flammability (solid, gas)	Not applicable.
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	> 115.6 ºC [*Test Method:*Closed Cup]
Autoignition temperature	*No data available.*
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	13.3 Pa [*Details:*CONDITIONS: @ 86F (30C); 13.3mm Hg @ 212F (100C).]
Relative density	1 [*Ref Std:*WATER=1]
Water solubility	Slight (less than 10%)
Solubility- non-water	*No data available.*
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*No data available.*
Vapour density	3.72 [*Ref Std:*AIR=1]
Decomposition temperature	*No data available.*
Viscosity	12 - 15 Pa-s [*Details:*CONDITIONS: (@ Room Temperature)]
Density	1 g/ml

9.2. Other information

Molecular weight	*No data available.*

SECTION 10: Stability and reactivity

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

10.2 Chemical stability
Stable.

10.3 Possibility of hazardous reactions
Hazardous polymerisation will not occur.

10.4 Conditions to avoid
Heat 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

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

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

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

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

Additional Health Effects:

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 ATE200 - 1,000 mg/kg
Overall product	Inhalation-Dust/Mist(4 hr)		No data available; calculated ATE1 - 5 mg/l
Overall product	Ingestion		No data available; calculated ATE300 - 2,000 mg/kg
4-Nonylphenol, branched	Dermal	Rabbit	LD50 > 2,000 mg/kg
4-Nonylphenol, branched	Ingestion	Rat	LD50 1,531 mg/kg
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Dermal	Rabbit	LD50 > 200 mg/kg
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation-Dust/Mist	Rat	LC50 0.42 mg/l

	(4 hours)		
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Rat	LD50 > 320 mg/kg
Benzyl alcohol	Inhalation-Dust/Mist (4 hours)	Rat	LC50 8.8 mg/l
Benzyl alcohol	Ingestion	Rat	LD50 1,230 mg/kg

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value
Overall product	In vitro data	Irritant
4-Nonylphenol, branched	Rabbit	Corrosive
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Rabbit	Corrosive
Benzyl alcohol	Multiple animal species	Mild irritant

Serious Eye Damage/Irritation

Name	Species	Value
Overall product	similar health hazards	Severe irritant
4-Nonylphenol, branched	Rabbit	Corrosive
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Rabbit	Corrosive
Benzyl alcohol	Rabbit	Severe irritant

Skin Sensitisation

Name	Species	Value
4-Nonylphenol, branched	Guinea pig	Not sensitising
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Guinea pig	Not sensitising
Benzyl alcohol	Human and animal	Some positive data exist, but the data are not sufficient for classification

Respiratory Sensitisation

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

Germ Cell Mutagenicity

Name	Route	Value
4-Nonylphenol, branched	In Vitro	Not mutagenic
4-Nonylphenol, branched	In vivo	Not mutagenic
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	In Vitro	Not mutagenic
Benzyl alcohol	In vivo	Not mutagenic
Benzyl alcohol	In Vitro	Some positive data exist, but the data are not sufficient for classification

Carcinogenicity

Name	Route	Species	Value
Benzyl alcohol	Ingestion	Multiple animal species	Not carcinogenic

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration
4-Nonylphenol, branched	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	28 days
4-Nonylphenol, branched	Ingestion	Toxic to female reproduction	official classification	NOAEL Not available	
4-Nonylphenol, branched	Ingestion	Toxic to development	official classification	NOAEL Not available	
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 12 mg/kg/day	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	Some positive male reproductive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.048 mg/l	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	Some positive developmental data exist, but the data are not sufficient for classification	Rat	NOAEL 45 mg/kg/day	during gestation
Benzyl alcohol	Ingestion	Not toxic to development	Mouse	NOAEL 550 mg/kg/day	during organogenesis

Lactation

Name	Route	Species	Value
4-Nonylphenol, branched	Ingestion	Rat	Does not cause effects on or via lactation

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL Not available	
Benzyl alcohol	Inhalation	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	
Benzyl alcohol	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		NOAEL Not available	
Benzyl alcohol	Ingestion	central nervous system depression	May cause drowsiness or dizziness		NOAEL Not available	

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration
4-Nonylphenol, branched	Ingestion	endocrine system | hematopoietic system | liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	28 days
4-Nonylphenol, branched	Ingestion	kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 150 mg/kg/day	90 days
4-Nonylphenol, branched	Ingestion	heart | bone, teeth, nails, and/or hair | immune system | muscles | nervous system | respiratory system	All data are negative	Rat	NOAEL 150 mg/kg/day	90 days
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	hematopoietic system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.012 mg/l	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	endocrine system | liver | kidney and/or bladder | respiratory system	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 0.048 mg/l	3 months

2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Inhalation	skin	Some positive data exist, but the data are not sufficient for classification	Human	NOAEL Not available	occupational exposure
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	heart	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 2.5 mg/kg/day	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	hematopoietic system | liver	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 12 mg/kg/day	3 months
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	Ingestion	endocrine system | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 60 mg/kg/day	3 months
Benzyl alcohol	Ingestion	endocrine system | muscles | kidney and/or bladder	Some positive data exist, but the data are not sufficient for classification	Rat	NOAEL 400 mg/kg/day	13 weeks
Benzyl alcohol	Ingestion	nervous system | respiratory system	Some positive data exist, but the data are not sufficient for classification	Mouse	NOAEL 645 mg/kg/day	8 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-Nonylphenol, branched	84852-15-3	Crustacea other	Experimental	96 hours	EC50	0.043 mg/l
4-Nonylphenol, branched	84852-15-3	Fathead minnow	Experimental	33 days	NOEC	0.0074 mg/l
4-Nonylphenol, branched	84852-15-3	Crustacea other	Experimental	28 days	NOEC	0.0039 mg/l
4-Nonylphenol, branched	84852-15-3	Fathead minnow	Experimental	96 hours	LC50	0.128 mg/l
4-Nonylphenol, branched	84852-15-3	Diatom	Experimental	96 hours	EC50	0.027 mg/l
Benzyl alcohol	100-51-6	Water flea	Experimental	48 hours	EC50	360 mg/l
Benzyl alcohol	100-51-6	Algae	Experimental	96 hours	EC50	640 mg/l
Benzyl alcohol	100-51-6	Fathead minnow	Experimental	96 hours	LC50	460 mg/l
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Green Algae	Experimental	72 hours	NOEC	0.36 mg/l
2,2'-Dimethyl-4,4'-	6864-37-5	Ricefish	Experimental	96 hours	LC50	22 mg/l

methylenebis(cyclohexylamine)						
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Water flea	Experimental	48 hours	EC50	4.6 mg/l
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Green algae	Experimental	96 hours	EC50	6.1 mg/l
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Water flea	Experimental	21 days	NOEC	4 mg/l
Dibenzyl Ether	103-50-4	Green Algae	Experimental	72 hours	NOEC	0.32 mg/l
Dibenzyl Ether	103-50-4	Ricefish	Experimental	96 hours	LC50	6.8 mg/l
Dibenzyl Ether	103-50-4	Green Algae	Experimental	72 hours	EC50	4.1 mg/l
Dibenzyl Ether	103-50-4	Water flea	Experimental	48 hours	EC50	0.77 mg/l
Dibenzyl Ether	103-50-4	Water flea	Experimental	21 days	NOEC	0.098 mg/l

12.2. Persistence and degradability

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
4-Nonylphenol, branched	84852-15-3	Estimated Photolysis		Photolytic half-life (in air)	7.5 hours (t 1/2)	Other methods
Dibenzyl Ether	103-50-4	Estimated Photolysis		Photolytic half-life (in air)	1.26 days (t 1/2)	Other methods
Benzyl alcohol	100-51-6	Experimental Biodegradation	14 days	BOD	94 % weight	OECD 301C - MITI test (I)
Dibenzyl Ether	103-50-4	Experimental Biodegradation	14 days	BOD	0 % weight	OECD 301C - MITI test (I)
4-Nonylphenol, branched	84852-15-3	Experimental Biodegradation	28 days	CO2 evolution	53 % weight	OECD 301B - Modified sturm or CO2
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Experimental Biodegradation	28 days	BOD	0 % weight	OECD 301C - MITI test (I)

12.3 : Bioaccumulative potential

Material	CAS Nbr	Test type	Duration	Study Type	Test result	Protocol
2,2'-Dimethyl-4,4'-methylenebis(cyclohexylamine)	6864-37-5	Experimental BCF-Carp	60 days	Bioaccumulation factor	60	Other methods
Dibenzyl Ether	103-50-4	Experimental BCF-Carp	56 days	Bioaccumulation factor	429	Other methods
4-Nonylphenol,	84852-15-3	Experimental	16 days	Bioaccumulatio	2168	Other methods

branched		BCF - Other		n factor		
Benzyl alcohol	100-51-6	Experimental Bioconcentration		Log Kow	1.10	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. 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

IATA: UN2810; Toxic Liquid, Organic, N.O.S. (4,4-Methylenebis(2-Methylcyclohexylamine); 6.1; III.
ADR: UN2810; Toxic Liquid, Organic, N.O.S. (4,4-Methylenebis(2-Methylcyclohexylamine)); 6.1; III; (E); T1.
IMDG: UN2810; Toxic Liquid, Organic, N.O.S. (4,4-Methylenebis(2-Methylcyclohexylamine); 6.1; III; FA, SA.

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

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H361df	Suspected of damaging fertility. Suspected of damaging the unborn child.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Revision information:

CLP: Ingredient table information was modified.
Section 2: Indication of danger information information was deleted.
Label: CLP Classification information was modified.
Label: CLP Precautionary - Prevention information was modified.
Label: Graphic Text information was deleted.
Label: Graphic information was deleted.
Label: Graphic information was modified.
Section 2: Label ingredient information information was deleted.
Section 2: Label remarks information was deleted.
Section 2: R phrase reference information was deleted.
Risk phrase information was deleted.
Safety phrase information was deleted.
Section 3: Composition/ Information of ingredients table information was modified.
Section 3: Reference to H statement explanation in Section 016 information was added.
Section 3: Reference to R and H statement explanation in Section 16 information was deleted.
Section 3: Reference to section 15 for Nota info information was deleted.
Section 9: Property description for optional properties information was added.
Section 9: Property description for optional properties information was deleted.
Section 9: Relative density 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: Health Effects - Ingestion information information was modified.
Section 11: Health Effects - Skin information 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 11: Target Organs - Single Table information was modified.
Section 12: Component ecotoxicity information information was modified.
Section 12: Persistence and Degradability information information was modified.
Section 12:Bioccumulative potential information information was modified.
Section 14: Transportation classification information was modified.
Section 15: Regulations - Inventories information was modified.
Section 16: List of relevant R phrase information information was deleted.
Section 16: List of relevant R-phrases information was deleted.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. information was modified.

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

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