Safety Data Sheet

Document group:	09-2130-4	**Version number:**	5.05
Revision date:	28/07/2011	**Supersedes date:**	18/02/2011

Transportation version number: 1.00 (18/02/2011)

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 DP-460 EG Epoxy Adhesive

Product identification numbers
XA-0041-2212-4

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

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

This product is a kit or a multipart product which consists of multiple, independently packaged components. A Safety Data Sheet for each of these components is included. Please do not separate the component Safety Data Sheets from this cover page. The document numbers of the MSDSs for components of this product are:

09-2119-7, 09-2129-6

TRANSPORTATION INFORMATION

XA-0041-2212-4

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

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

Component 2
ADR/RID: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE,LIQUID,N.O.S.LIMITED QUANTITY, (BISPHENOL A-EPICHLOROHYDRIN COPOLYMER), 9., III, (--), ADR Classification Code: M6.
IMDG-CODE: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE,LIQUID, N.O.S., (BISPHENOL A-EPICHLOROHYDRIN COPOLYMER), 9., III, LIMITED QUANTITY, Marine Pollutant, (BISPHENOL A-EPICHLOROHYDRIN COPOLYMER), EMS: FA,SF.
ICAO/IATA: UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE,LIQUID,N.O.S., (BISPHENOL A-EPICHLOROHYDRIN COPOLYMER), 9., III, fish and tree marking may be required (> 5kg/l).

KIT LABEL

2.2. Label elements

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

Symbols

C	Corrosive.
N	Dangerous to environment.

Contains:
Consult the component labels for disclosable ingredients.

Risk phrases

R34	Causes burns.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases

S51	Use only in well ventilated areas.
S23J	Do not breathe vapours of heated mixture.
S24/25	Avoid contact with the skin and eyes.
S36/37/39B	Wear suitable protective clothing, gloves, and eye and face protection.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28C	After contact with skin, wash immediately with plenty of water for 15 minutes.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Special provisions concerning the labelling of certain substances

Contains epoxy resins. See information supplied by manufacturer.

Notes on labelling

For containers <125mL, include: C, N with R34-43 and S36/37/39B-45-2055

Revision information:
Revision Changes:
Kit: Component document group number(s) was modified.
Section 1: Product identification numbers heading was modified.
Section 1: Address was modified.
Copyright was modified.

Company logo was added.
Telephone header was added.
Company Telephone was added.

Safety Data Sheet

Document group:	09-2119-7	**Version number:**	5.02
Revision date:	28/07/2011	**Supersedes date:**	18/02/2011

Transportation version number: 1.00 (18/02/2011)

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
3M Scotch-Weld DP-460 EG Epoxy Adhesive (Part A)

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

Identified uses
Adhesive

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive
Indication of danger
Corrosive.
Sensitising

2.2. Label elements

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

Symbols
C Corrosive.

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

Oxybis(ethyleneoxy)bis(propylamine)

Risk phrases

R34	Causes burns.
R43	May cause sensitisation by skin contact.
R52/53	Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases

S23J	Do not breathe vapours of heated mixture.
S24	Avoid contact with skin.
S36/37/39B	Wear suitable protective clothing, gloves, and eye and face protection.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28C	After contact with skin, wash immediately with plenty of water for 15 minutes.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Special provisions concerning the labelling of certain substances

Contains epoxy resins. See information supplied by manufacturer.

2.3. Other hazards

May cause chemical gastrointestinal burns.

SECTION 3: Composition/information on ingredients

Ingredient	CAS Nbr	EU Inventory	% by Wt	Classification
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	4246-51-9	EINECS 224-207-2	40 - 70	C:R34; R52/53 (Self Classified) Skin Corr. 1B, H314; Aquatic Chronic 3, H412 (Self Classified)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	25068-38-6	NLP 500-033-5	15 - 25	Xi:R36-38; N:R51/53; R43 (EU) Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411 (CLP)
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	68610-41-3		7 - 13	
Silane, trimethoxyoctyl-, hydrolysis products with silica	7631-86-9	EINECS 296-597-2	3 - 7	
2,4,6-Tris(dimethylaminomethyl)phenol	90-72-2	EINECS 202-013-9	1 - 5	Xn:R22; Xi:R36-38 (EU) Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319 (CLP)

Please see section 16 for the full text of any R phrases and H statements referred to in this section
Please refer to section 15 for the any applicable Notas that have been applied to the above components

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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

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

Inhalation
Remove person to fresh air. If you feel unwell, get medical attention.

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

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

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

SECTION 5: Fire-fighting measures

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

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.

5.3. Advice for fire-fighters
No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Warning: A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Ventilate the area with fresh air.

6.2. Environmental precautions
Avoid release to the environment.

6.3. Methods and material for containment and cleaning up
Collect as much of the spilled material as possible. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard. Seal the container.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

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

7.2. Conditions for safe storage including any incompatibilities
Store away from acids. Store away from oxidising agents.

7.3. Specific end use(s)
See information in Section 7.1 and 7.2 for handling and storage recommendations. See Section 8 for exposure controls and personal protection recommendations.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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

8.2. Exposure controls

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Wear eye/face protection.
The following eye protection(s) are recommended: Safety glasses with side shields.
Indirect vented goggles.

Skin/hand protection

Wear protective gloves, protective clothing, and eye/face protection. Wear protective gloves.
Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

Select one of the following approved respirators based on airborne concentration of contaminants and in accordance with regulations:
Half face piece or full face air-purifying respirator with organic vapour cartridges.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Specific Physical Form:	Viscous.
Appearance/Odour	amber, very mild pungent odour.
pH	*Not applicable.*
Boiling point/boiling range	*No data available.*
Melting point	*Not applicable.*
Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	>=140 ºC [*Test Method:*Closed Cup]
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	<=0.4 Pa [@ 20 ºC]
Relative density	1.06 [*Ref Std:*WATER=1]
Water solubility	Negligible
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*Not applicable.*
Vapour density	*No data available.*
Viscosity	10.5 Pa-s [@ 20 ºC]
Density	1.06 g/ml

9.2. Other information

Volatile organic compounds (VOC)	10.6 g/l [*Test Method:*EPA method 24A]
Percent volatile	0 % weight
VOC less H2O & exempt solvents	10.6 g/l [*Test Method:*EPA method 24A]

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 reaction (exothem) with production of intense heat and smoke.

10.5 Incompatible materials
Strong acids.
Strong oxidising agents.

10.6 Hazardous decomposition products

Substance	**Condition**

Toxic vapour, gas, particulate.	Not specified.

SECTION 11: Toxicological information

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

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

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

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

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

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

Toxicological Data

Acute Toxicity

Name	Route	Species	Value	UN GHS Classification
Overall product	Ingestion		No test data available; calculated ATE4494 mg/kg	Category5 (0% unknown)
3,3'-Oxybis(ethyleneoxy)bis(propylamine)			No data available	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane			No data available	
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin			No data available	
Silane, trimethoxyoctyl-, hydrolysis products with silica			No data available	
2,4,6-Tris(dimethylaminomethyl)pheno			No data available	

1				

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value	UN GHS Classification
Overall product		No test data available; calculated to be corrosive	Category 1B
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Corrosive	Category 1B
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		No data available	
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin		No data available	
Silane, trimethoxyoctyl-, hydrolysis products with silica		No data available	
2,4,6-Tris(dimethylaminomethyl)phenol		No data available	

Serious Eye Damage/Irritation

Name	Species	Value	UN GHS Classification
Overall product		No test data available; calculated to be corrosive	Category 1
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		Corrosive	Category 1
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		No data available	
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin		No data available	
Silane, trimethoxyoctyl-, hydrolysis products with silica		No data available	
2,4,6-Tris(dimethylaminomethyl)phenol		No data available	

Skin Sensitisation

Name	Species	Value	UN GHS Classification
Overall product		No test data available.	Category 1 based on component data
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		No data available	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Sensitising	Category 1
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin		No data available	
Silane, trimethoxyoctyl-, hydrolysis products with silica		No data available	
2,4,6-Tris(dimethylaminomethyl)phenol		No data available	

Respiratory Sensitisation

Name	Species	Value	UN GHS Classification
Overall product		No test data available.	Not classified based on component data
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		No data available	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		No data available	
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin		No data available	
Silane, trimethoxyoctyl-, hydrolysis products with silica		No data available	
2,4,6-Tris(dimethylaminomethyl)phenol		No data available	

Germ Cell Mutagenicity

Name	Route	Value	UN GHS Classification
Overall product		No data available	Overall Germ Cell Mutagenicity classificationNot classified
Overall product		No test data available.	
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		No data available	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		No data available	
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin		No data available	
Silane, trimethoxyoctyl-, hydrolysis products with silica		No data available	
2,4,6-Tris(dimethylaminomethyl)phenol		No data available	

Carcinogenicity

Name	Route	Species	Value	UN GHS Classification
Overall product			No test data available.	Not classified based on component data
3,3'-Oxybis(ethyleneoxy)bis(propylamine)			No data available	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane			No data available	
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin			No data available	
Silane, trimethoxyoctyl-, hydrolysis products with silica			No data available	
2,4,6-Tris(dimethylaminomethyl)phenol			No data available	

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration	UN GHS Classification
Overall product		No test data available.				Not classified based on component data
3,3'-Oxybis(ethyleneoxy)bis(propylamine)		No data available				
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		No data available				
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin		No data available				
Silane, trimethoxyoctyl-, hydrolysis products with silica		No data available				
2,4,6-Tris(dimethylaminomethyl)phenol		No data available				

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration	UN GHS Classification
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Inhalation	respiratory irritation	Some positive data exist, but the data are not sufficient for classification		Irritation Positive		Not classified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane			No data available				

2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin			No data available				
Silane, trimethoxyoctyl-, hydrolysis products with silica			No data available				
2,4,6-Tris(dimethylaminomethyl)phenol			No data available				

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration	UN GHS Classification
Overall product			No test data available.				Not classified based on component data
3,3'-Oxybis(ethyleneoxy)bis(propylamine)			No data available				
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane			No data available				
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A			No data available				

and epichlorhydrin							
Silane, trimethoxyoctyl-, hydrolysis products with silica			No data available				
2,4,6-Tris(dimethylaminomethyl)phenol			No data available				

Aspiration Hazard

Name	Value	UN GHS Classification
Overall product	No test data available.	Not classified based on component and/or viscosity data
3,3'-Oxybis(ethyleneoxy)bis(propylamine)	Not an aspiration hazard	Not classified
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Not an aspiration hazard	Not classified
2-Propenenitrile, polymer with 1,3-butadiene, carboxy-terminated, polymers with bisphenol A and epichlorhydrin	Not an aspiration hazard	Not classified
Silane, trimethoxyoctyl-, hydrolysis products with silica	Not an aspiration hazard	Not classified
2,4,6-Tris(dimethylaminomethyl)phenol	Not an aspiration hazard	Not classified

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

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
GHS Acute 3: Harmful to aquatic life.

Chronic aquatic hazard:
GHS Chronic 3: Harmful to aquatic life with long lasting effects.

No product test data available.
No component test data available.

12.2. Persistence and degradability
No test data available.

12.3 : Bioaccumulative potential
No test data available.

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
Dispose of contents/ container in accordance with the local/regional/national/international regulations

As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09*	Waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27*	Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

ADR: UN2735; Amines, liquid, corrosive, n.o.s. (contains 4,7,10-trioxatridecane-1,13-diamine); 8: II; Classification code C7
IMDG: UN2735; Amines, liquid, corrosive, n.o.s. (contains 4,7,10-trioxatridecane-1,13-diamine); 8: II
IATA: UN2735; Amines, liquid, corrosive, n.o.s. (contains 4,7,10-trioxatridecane-1,13-diamine); 8: II

SECTION 15: Regulatory information

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

Global inventory status
All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. Contact 3M for more information. The components of this material are in compliance with the China "Regulations on the Environmental Management of New Chemical Substances". 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.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

List of relevant R-phrases

R22	Harmful if swallowed.
R34	Causes burns.
R36	Irritating to eyes.
R38	Irritating to skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
R52/53	Harmful to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Revision information:
Revision Changes:
Sectio 16: UK disclaimer was modified.
Section 3: Composition/ Information of ingredients table was modified.
Section 12: Contact manufacturer for more detail. was modified.
Section 16: Regulations – Inventories – EU ONLY was modified.
Section 1: Address was modified.
Copyright was modified.
Aspiration Hazard Table was modified.
Section 11: Acute Toxicity table was modified.
Carcinogenicity Table was modified.
Serious Eye Damage/Irritation Table was modified.
Germ Cell Mutagenicity Table was modified.
Skin Sensitisation Table was modified.
Respiratory Sensitisation Table was modified.
Reproductive Toxicity Table was modified.
Skin Corrosion/Irritation Table was modified.
Target Organs - Repeated Table was modified.
Section 11: Health Effects - Skin information was modified.
Section 11: Health Effects - Ingestion information was modified.
Section 12: No PBT/vPvB information available warning was modified.
Section 7: Precautions safe handling information was modified.
Section 12: Acute aquatic hazard information was added.
Section 12: Chronic aquatic hazard heading was added.
Section 12: Acute aquatic hazard heading was added.
Section 12: Chronic aquatic hazard information was added.
Company logo was added.
Telephone header was added.
Company Telephone was added.
Company Logo was deleted.

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the

product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

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

Safety Data Sheet

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Transportation version number: 1.00 (01/10/2010)

This Safety Data Sheet has been prepared in accordance with the REACH Regulation (EC) 1907/2006 and its modifications.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier
Scotch-Weld DP-460 EG Epoxy Adhesive (Part B)

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

Identified uses
Adhesive

1.3. Details of the supplier of the substance or mixture

Address: 3M United Kingdom PLC, 3M Centre, Cain Road, Bracknell, Berkshire, RG12 8HT.

E Mail: tox.uk@mmm.com
Website: www.3M.com/uk

1.4. Emergency telephone number
+44 (0)1344 858 000

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Dangerous substances(67/548/EEC)/preparations(1999/45/EC) directive
Indication of danger
Dangerous to environment.
Irritant.
Sensitising

2.2. Label elements

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

Symbols

Xi	Irritant.
N	Dangerous to environment.

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

Risk phrases

R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Safety phrases

S24	Avoid contact with skin.
S37	Wear suitable gloves.
S61	Avoid release to the environment. Refer to special instructions/safety data sheets.

Special provisions concerning the labelling of certain substances

Contains epoxy resins. See information supplied by manufacturer.

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	60 - 100	Xi:R36-38; N:R51/53; R43 (EU) Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; Aquatic Chronic 2, H411 (CLP)
Methyl methacrylate - butadiene - styrene polymer	25053-09-2		10 - 30	
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	2530-83-8	EINECS 219-784-2	0 - 1	Xi:R38-41 (Self Classified) Skin Irrit. 2, H315; Eye Dam. 1, H318 (Self Classified)

Please see section 16 for the full text of any R phrases and H statements referred to in this section
Please refer to section 15 for the any applicable Notas that have been applied to the above components

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

SECTION 4: First aid measures

4.1. Description of first aid measures

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

Inhalation
Remove person to fresh air. If you feel unwell, 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.

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.
Carbon monoxide.	During combustion.
Carbon dioxide.	During combustion.

5.3. Advice for fire-fighters
No unusual fire or explosion hazards are anticipated.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapours, in accordance with good industrial hygiene practice. Warning: A motor could be an ignition source and could cause flammable gases or vapours in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions
Avoid release to the environment. For larger spills, cover drains and build dykes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up
Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard. Collect as much of the spilled material as possible. 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. Place in a closed container approved for transportation by appropriate authorities. Seal the container. Dispose of collected material as soon as possible.

6.4. Reference to other sections
Refer to Section 8 and Section 13 for more information

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Do not get in eyes, on skin, or on clothing. Avoid breathing dust/fume/gas/mist/vapours/spray. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work

clothing should not be allowed out of the workplace. Avoid breathing of vapours created during the cure cycle. Avoid contact with oxidising agents (eg. chlorine, chromic acid etc.) For industrial or professional use only.

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.

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

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Wear eye/face protection.
The following eye protection(s) are recommended: Safety glasses with side shields.
Indirect vented goggles.

Skin/hand protection

Wear protective gloves.
Gloves made from the following material(s) are recommended: Polymer laminate

Respiratory protection

Wear respiratory protection if ventilation is inadequate to prevent overexposure.
Select one of the following approved respirators based on airborne concentration of contaminants and in accordance with regulations:
Half face piece or full face air-purifying respirator with organic vapour cartridges.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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

Flammability (solid, gas)	Not classified
Explosive properties	Not classified
Oxidising properties	Not classified
Flash point	>=170 ºC [*Test Method:*Closed Cup]
Flammable Limits(LEL)	*No data available.*
Flammable Limits(UEL)	*No data available.*
Vapour pressure	<=4 Pa [@ 20 ºC]
Relative density	1.16 [*Ref Std:*WATER=1]
Water solubility	*No data available.*
Water solubility	Negligible
Partition coefficient: n-octanol/water	*No data available.*
Evaporation rate	*Not applicable.*
Vapour density	*No data available.*
Vapour density	Nil
Viscosity	100 Pa-s [@ 20 ºC]
Density	1.16 g/ml

9.2. Other information

Volatile organic compounds (VOC)	2 g/l [*Test Method:*EPA method 24A]
Percent volatile	0 % weight
VOC less H2O & exempt solvents	2 g/l [*Test Method:*EPA method 24A]

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 reaction (exothem) 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.	

SECTION 11: Toxicological information

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

11.1 Information on Toxicological effects

Signs and Symptoms of Exposure

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

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

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

Inhalation
Vapours from heated material may cause irritation of the respiratory system: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, nose and throat pain.

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

Toxicological Data

Acute Toxicity

Name	Route	Species	Value	UN GHS Classification
Overall product	Ingestion		No test data available; calculated ATE >5000 mg/kg	Not classified (0% unknown)
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane			No data available	
Methyl methacrylate - butadiene - styrene polymer			No data available	
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane			No data available	

ATE = acute toxicity estimate

Skin Corrosion/Irritation

Name	Species	Value	UN GHS Classification
Overall product		No test data available; calculated to be mild irritant	Category 3
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Mild irritant	Category 3
Methyl methacrylate - butadiene - styrene polymer		No data available	
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane		No data available	

Serious Eye Damage/Irritation

Name	Species	Value	UN GHS Classification
Overall product		No test data available; calculated to be moderate	Category 2B

		irritant	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Moderate irritant	Category 2B
Methyl methacrylate - butadiene - styrene polymer		No data available	
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane		No data available	

Skin Sensitisation

Name	Species	Value	UN GHS Classification
Overall product		No test data available.	Category 1 based on component data
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		Sensitising	Category 1
Methyl methacrylate - butadiene - styrene polymer		No data available	
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane		No data available	

Respiratory Sensitisation

Name	Species	Value	UN GHS Classification
Overall product		No test data available.	Not classified based on component data
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		No data available	
Methyl methacrylate - butadiene - styrene polymer		No data available	
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane		No data available	

Germ Cell Mutagenicity

Name	Route	Value	UN GHS Classification
Overall product		No data available	Overall Germ Cell Mutagenicity classificationNot classified
Overall product		No test data available.	
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		No data available	
Methyl methacrylate - butadiene - styrene polymer		No data available	
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane		No data available	

Carcinogenicity

Name	Route	Species	Value	UN GHS Classification
Overall product			No test data available.	Not classified based on component data
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane			No data available	

Methyl methacrylate - butadiene - styrene polymer			No data available	
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane			No data available	

Reproductive Toxicity

Reproductive and/or Developmental Effects

Name	Route	Value	Species	Test result	Exposure Duration	UN GHS Classification
Overall product		No test data available.				Not classified based on component data
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane		No data available				
Methyl methacrylate - butadiene - styrene polymer		No data available				
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane		No data available				

Target Organ(s)

Specific Target Organ Toxicity - single exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration	UN GHS Classification
Overall product			No test data available.				Not classified based on component data
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane			No data available				
Methyl methacrylate - butadiene - styrene polymer			No data available				
[3-(2,3-Epoxypropoxy)propyl] trimethoxysi			No data available				

lane							

Specific Target Organ Toxicity - repeated exposure

Name	Route	Target Organ(s)	Value	Species	Test result	Exposure Duration	UN GHS Classification
Overall product			No test data available.				Not classified based on component data
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane			No data available				
Methyl methacrylate - butadiene - styrene polymer			No data available				
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane			No data available				

Aspiration Hazard

Name	Value	UN GHS Classification
Overall product	No test data available.	Not classified based on component and/or viscosity data
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane	Not an aspiration hazard	Not classified
Methyl methacrylate - butadiene - styrene polymer	Not an aspiration hazard	Not classified
[3-(2,3-Epoxypropoxy)propyl] trimethoxysilane	Not an aspiration hazard	Not classified

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

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labelling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:
Not acutely toxic to aquatic life by GHS criteria.

Chronic aquatic hazard:
Not chronically toxic to aquatic life by GHS criteria.

No product test data available.
No component test data available.

12.2. Persistence and degradability
No test data available.

12.3 : Bioaccumulative potential
No test data available.

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
Dispose of contents/ container in accordance with the local/regional/national/international regulations

Incinerate in a permitted hazardous waste incinerator in the presence of a combustible material. As a disposal alternative, dispose of waste product in a facility permitted to accept chemical waste.

The coding of a waste stream is based on the application of the product by the consumer. Since this is out of the control of 3M, no waste code(s) for products after use will be provided. Please refer to the European Waste Code (EWC - 2000/532/EC and amendments) to assign the correct waste code to your waste stream. Ensure national and/or regional regulations are complied with and always use a licensed waste contractor.

EU waste code (product as sold)

08 04 09*	Waste adhesives and sealants containing organic solvents or other dangerous substances
20 01 27*	Paint, inks, adhesives and resins containing dangerous substances

SECTION 14: Transportation information

ADR: UN3082; Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a-epichlorohydrin copolymer): 9; III; Classification code M6
IMDG: UN3082; 9; Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a-epichlorohydrin copolymer)
IATA: UN3082; Environmentally hazardous substance, liquid, n.o.s. (Bisphenol a-epichlorohydrin copolymer): 9; III;

SECTION 15: Regulatory information

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

Global inventory status
All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. Contact 3M for more information. The components of this material are in compliance with the China "Regulations on the Environmental Management of New

Chemical Substances". Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of the Korean Toxic Chemical Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Japan Chemical Substance Control Law. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Philippines RA 6969 requirements. Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. The components of this product are in compliance with the chemical notification requirements of TSCA.

15.2. Chemical Safety Assessment
Not applicable

SECTION 16: Other information

List of relevant H statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

List of relevant R-phrases

R36	Irritating to eyes.
R38	Irritating to skin.
R41	Risk of serious damage to eyes.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Revision information:
Revision Changes:
Section 8: Skin protection - recommended gloves information was modified.
Supersedes date text was modified.
Section 1: Main heading was modified.
Section 1: 1.1.product identifier heading was modified.
Section 1: 1.2. Relevant identified uses of the substance or mixture and uses advised against heading was modified.
Section 1: 1.3. Details of the supplier of the substance or mixture heading was modified.
Section 1: 1.4. Emergency telephone number heading was modified.
Section 2: Main heading was modified.
Section 3: Main heading was modified.
Section 4: Main heading was modified.
Section 5: 5.1. Extinguishing media heading was modified.
Section 5: Main heading was modified.
Section 5: 5.3. Advice for fire-fighters was modified.
Section 5: 5.2. Special hazards arising from the substance or mixture heading was modified.
Section 6: 6.3. Methods and material for containment and cleaning up was modified.
Section 6: 6.2. Environmental precautions heading was modified.
Section 6: Main heading was modified.
Section 6: 6.1. Personal precautions, protective equipment and emergency procedures heading was modified.
Section 7: Main heading was modified.
Section 8: Main heading was modified.
Section 8: 8.1. Control parameters heading was modified.
Section 8: 8.2.1 Engineering controls heading was modified.

Section 9: Main heading was modified.
Section 9: 9.1. Information on basic physical and chemical properties heading was modified.
Section 9: 9.2. Other information heading was modified.
Section 3: Composition table % by Wt Column heading was modified.
Section 10: Main heading was modified.
Section 11: Main heading was modified.
Section 12: Main heading was modified.
Section 13: Main heading was modified.
Section 14: Main heading was modified.
Section 15: Main heading was modified.
Section 16: Main heading was modified.
Section 1: Product use information was modified.
Sectio 16: UK disclaimer was modified.
Section 3: Composition/ Information of ingredients table was modified.
Section 8: Skin/hand protection heading was modified.
Section 2: Indication of danger information was modified.
Section 12: 12.1. Toxicity heading was modified.
Section 12: 12.4 Mobility in soil heading was modified.
Section 12: Contact manufacturer for more detail. was modified.
Section 12: 12.2. persistence and degradability heading was modified.
Section 12: 12.3. Bioaccumulative potential heading was modified.
Section 12: 12.5. Results of the PBT and vPvB assessment was modified.
Section 12: 12.6. Other adverse effects was modified.
Section 9: Flammability (solid, gas) information was modified.
Section 9: Explosive properties information was modified.
Section 9: Oxidising properties information was modified.
Section 14: Transportation classification was modified.
Section 16: Regulations – Inventories – EU ONLY was modified.
Section 1: Address was modified.
Copyright was modified.
Section 9: Flammable limits (LEL) information was modified.
Section 9: Flammable limits (UEL) information was modified.
Section 4: First aid for skin contact heading was added.
Section 4: First aid for eye contact heading was added.
Section 4: First aid for ingestion (swallowing) heading was added.
Section 4: First aid for inhalation heading was added.
Section 12: Acute aquatic hazard information was added.
Section 12: Chronic aquatic hazard heading was added.
Section 12: Acute aquatic hazard heading was added.
Section 12: Chronic aquatic hazard information was added.
Section 2: Other hazards phrase was added.
Company logo was added.
Telephone header was added.
Company Telephone was added.
Section 11: Information on Toxicological effects heading was added.
Section 11: Signs and Symptoms of Exposure heading was added.
Section 11: Acute Toxicity table heading was added.
Section 11: Acute Toxicity table ATE text was added.
Aspiration Hazard Table was added.
Section 11: Aspiration table heading was added.
Section 11: Acute Toxicity table was added.
Section 11: Classification disclaimer was added.
Section 11: Additional toxicological information statement was added.
Section 11: Health effects heading was added.
Carcinogenicity Table was added.
Section 11: Carcinogenicity table heading was added.

Section 11: Exposure Duration table heading was added.
Section 11: Serious Eye Damage/Irritation table heading was added.
Serious Eye Damage/Irritation Table was added.
Germ Cell Mutagenicity Table was added.
Section 11: Germ Cell Mutagenicity table heading was added.
Skin Sensitisation Table was added.
Respiratory Sensitisation Table was added.
Section 11: Name table heading was added.
Section 11: Reproductive and/or Developmental table heading was added.
Reproductive Toxicity Table was added.
Section 11: Reproductive Toxicity table heading was added.
Section 11: Respiratory Sensitisation table heading was added.
Section 11: Route table heading was added.
Skin Corrosion/Irritation Table was added.
Section 11: Skin Sensitisation table heading was added.
Section 11: Species table heading was added.
Section 11: Test Result table heading was added.
Section 11: Target Organs table heading was added.
Section 11: Target Organs - Repeated Exposure table heading was added.
Target Organs - Repeated Table was added.
Section 11: Target Organs - Single Exposure table heading was added.
Target Organs - Single Table was added.
Section 11: Toxicological Data heading was added.
Section 11: UN GHS Classification table heading was added.
Section 11: Value table heading was added.
Section 11: Health Effects - Eye information was added.
Section 11: Health Effects - Skin information was added.
Section 11: Health Effects - Inhalation information was added.
Section 11: Health Effects - Ingestion information was added.
Section 11: Skin Corrosion/Irritation table heading was added.
Section 1: Identified uses header was added.
Section 3: Reference to R and H statement explanation in Section 16 was added.
Section 3: Disclosure Statement was added.
Section 12: Classification Warning was added.
Section 12: No PBT/vPvB information available warning was added.
Section 2: 2.1. Classification of the substance or mixture heading was added.
Section 2: 2.2. Label elements heading was added.
Section 2: 2.3. Other hazards heading was added.
Section 2: 2.2 & 2.3. DSD/DPD heading was added.
Section 5: Hazardous combustion products heading was added.
Section 5: Hazardous combustion products table was added.
Section 5: Fire - Extinguishing media information was added.
Section 5: Fire - Special hazards information was added.
Section 5: Fire - Advice for fire fighters information was added.
Section 6: 6.4. Reference to other sections heading was added.
Section 6: Accidental release personal information was added.
Section 6: Accidental release environmental information was added.
Section 6: Accidental release clean-up information was added.
Refer to Section 8 and Section 13 for more information was added.
Section 7: 7.1. Precautions for safe handling header was added.
Section 7: 7.2. Conditions for safe storage including any incompatibilities header was added.
Section 7: 7.3. Specific end use(s) header was added.
Section 7: More information statement was added.
Section 7: Precautions safe handling information was added.
Section 7: Conditions safe storage was added.
Section 8: 8.1. OEL table heading was added.

Section 8: 8.2.2. Personal protective equipment (PPE) heading was added.
Section 8: Appropriate Engineering controls information was added.
Section 8: Personal Protection - Eye information was added.
Section 8: Personal Protection - Skin/hand information was added.
Section 8: Personal Protection - Respiratory Information was added.
Section 10: 10.1. Reactivity heading was added.
Section 10: 10.2. Chemical stability heading was added.
Section 10: 10.3. Possibility of hazardous reactions heading was added.
Section 10: 10.4. Conditions to avoid heading was added.
Section 10: 10.5. Incompatible materials heading was added.
Section 10: 10.6 Hazardous decomposition products was added.
Section 10: Hazardous decomposition or by-products table was added.
Section 10.1: Reactivity information was added.
Section 13: 13.1. Waste treatment method heading was added.
Section 13: 13.1. Waste disposal note was added.
Section 13: Standard Phrase Category Waste GHS was added.
Section 4: 4.1. Description of first aid measures heading was added.
Section 4: 4.2. Most important symptoms and effects, both acute and delayed was added.
Section 4: 4.3. Indication of any immediate medical attention and special treatment required heading was added.
Section 4: First aid for eye contact information was added.
Section 4: First aid for skin contact information was added.
Section 4: First aid for inhalation information was added.
Section 4: First aid for ingestion (swallowing) information was added.
Section 4: First Aid –notes to physician (REACH/GHS) was added.
Two-column table displaying the unique list of H Codes and statements (std phrases) for all components of the given material. was added.
Section 16: List of relevant H statements heading was added.
Section 4:4.2. Information on toxicological effects text was added.
Section 8: 8.2. Exposure controls heading was added.
Section 10: 10.6. Hazardous decomposition products table column 1 heading was added.
Section 10: 10.6. Hazardous decomposition products table column 2 heading was added.
Section 15: 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture heading was added.
Section 15: 15.2. Chemical Safety Assessment was added.
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 was added.
Section 11: Potential effects from eye contact heading was added.
Section 11: Potential effects from skin contact heading was added.
Section 11: Potential effects from inhalation heading was added.
Section 11: Potential effects from ingestion heading was added.
Section 7: Handling heading was deleted.
Company Logo was deleted.
Section 3: Potential effects from eye contact heading was deleted.
Section 3: Potential effects from skin contact heading was deleted.
Section 3: Potential effects from inhalation heading was deleted.
Section 3: Potential effects from ingestion heading was deleted.
Section 4: First aid for eye contact - decontamination - was deleted.
Section 4: First aid for eye contact - medical assistance - was deleted.
Section 5: Extinguishing media information was deleted.
Section 7: Storage heading was deleted.
Section 8: Engineering controls information was deleted.
Section 8: Prevention of swallowing information was deleted.
Section 10: Hazardous decomposition or by-products table was deleted.
Section 13: Waste disposal method heading was deleted.
Section 13: Waste disposal method information was deleted.
Section 4: First aid for skin contact - termination of exposure - was deleted.

Section 4: First aid for skin contact - decontamination - was deleted.
Section 4: First aid for skin contact - medical assistance - was deleted.
Section 4: First aid for skin contact - handling - was deleted.
Section 4: First aid for inhalation - termination of exposure - was deleted.
Section 4: First aid for inhalation - medical assistance - was deleted.
Section 4: First aid for ingestion (swallowing) - decontamination - was deleted.
Section 4: First aid for ingestion (swallowing) - intervention - was deleted.
Section 4: First aid for ingestion (swallowing) - medical assistance - was deleted.
Section 6: Release measures note was deleted.
Section 8: Respiratory protection - recommended respirators guide was deleted.
Section 8: Skin protection - protective clothing text was deleted.
Section 3: Ingredient phrase was deleted.
First Aid text was deleted.
Section 2 Risk phrases heading was deleted.
Section 5: Unsuitable extinguishing media heading was deleted.
Section 8: Hand Protection heading was deleted.
Section 8: Environmental exposure controls no data available text was deleted.
Section 8: Exposure controls heading was deleted.
Section 8: 8.2.3. Environmental exposure controls heading was deleted.
Section 9: Important health safety and environmental information heading was deleted.
Section 10.1 Conditions to avoid heading was deleted.
Section 10.2 Materials to avoid heading was deleted.
Section 10: Hazardous decomposition products heading was deleted.
Section 2: Risk phrase information was deleted.
Section 16: Restrictions on use heading was deleted.
Section 7: Handling information was deleted.
Section 7: Storage information was deleted.
Section 8: Prevention of swallowing heading was deleted.
Section 8: Eye/face protection information was deleted.
Section 8: Respiratory protection information was deleted.
Section 5: Unusual fire and explosion hazard information was deleted.
Section 5: Fire fighting procedures information was deleted.
Section 11: Potential effects from eye contact information was deleted.
Section 11: Potential respiratory effects information was deleted.
Section 11: Potential effects from ingestion information was deleted.
Section 11: Potential effects from skin contact information was deleted.
Section 12: No data available information was deleted.
Section 6: Personal precautions information was deleted.
Section 6: Environmental procedures information was deleted.
Section 6: Methods for cleaning up information was deleted.
Section 2: Other hazards heading was deleted.
Section 2: Notes on labelling heading was deleted.
Reference to R phrase explanation in Section 16 was deleted.
Section 16: Restrictions on use was deleted.
Section 8: OEL table agency column heading was deleted.
Section 8: OEL table limit type column heading was deleted.
Section 8: OEL table Ingredient column heading was deleted.
Section 8: OEL table Additional Comments column heading was deleted.

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