

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Supersedes date 05-Dec-2022

Revision date 22-Jun-2026

Revision Number 4.01

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

1.1. Product identifier

Product Code(s)	21761
Safety data sheet number	21761
Product Name	2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE
Index No	603-073-00-2
EC Number	216-823-5
CAS No	1675-54-3
Synonyms	D.E.R. 331-EL EPOXY RESIN, REACTION PRODUCT: BISPHENOL-A-(EPICHLORHYDRIN) EPOXY RESIN (NUMBER AVERAGE MOLECULAR WEIGHT <= 700), LS 128, EPOXY RESIN WB 127, EPOXY RESIN WB 128, EPOXY RESIN LS 128, YD 128***
Pure substance/mixture	Substance

Contains 2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE

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

Recommended use	Industrial use For further information, see attached Exposure Scenario
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1.3. Details of the supplier of the safety data sheet

Supplier

Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
GBR

For further information, please contact

E-mail address	SDS.EMEA@univarsolutions.com
Non-Emergency Telephone Number	+44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone	SGS - +32 (0)3 575 55 55 (24h)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Skin sensitisation	Category 1 - (H317)
Chronic aquatic toxicity	Category 2 - (H411)

2.2. Label elements

Contains 2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE



Signal word

Warning

Hazard statements

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H411 - Toxic to aquatic life with long lasting effects

Precautionary statements

P264 - Wash face, hands and any exposed skin thoroughly after handling

P273 - Avoid release to the environment

P280 - Wear protective gloves and eye/face protection

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P337 + P313 - If eye irritation persists: Get medical advice/attention

P391 - Collect spillage

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE	100%	216-823-5 (603-073-00-2)***	-	Skin Irrit. 2 (H315) Skin Sens. 1B (H317) Eye Irrit. 2 (H319)	Skin Irrit. 2, H315 :C>=5% Eye Irrit. 2,	-	-

ETHYLENE)]BISOXIRANE*** 1675-54-3				Aquatic Chronic 2 (H411)***	H319 ::C>=5%***		
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Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration >= 0.1% (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air. Get medical attention immediately if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.
Skin contact	May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a doctor. Wash off immediately with soap and plenty of water for at least 15 minutes.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a doctor.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

Symptoms	Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation.
Eyes	Causes serious eye irritation.***
Dermal	Causes skin irritation. May cause an allergic skin reaction.***

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	May cause sensitisation in susceptible persons. Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Dry chemical, CO2, alcohol-resistant foam or water spray.***
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	May cause sensitisation by skin contact.
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Hazardous combustion products Carbon oxides.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Collect contaminated fire extinguishing water separately. Do not allow it to enter drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other information Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Collect with absorbent, non-combustible material into suitable containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

General hygiene considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Wash face, hands and any exposed skin thoroughly after handling. Ensure that eyewash stations and safety showers are close to the workstation location.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at temperatures between 2 and 43 °C. See section 10 for more information.

7.3. Specific end use(s)

Specific use(s)

See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical name	United Kingdom
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE 1675-54-3	TWA: 2 mg/m ³ ***

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers No information available

Chemical name	Oral	Dermal	Inhalation
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE 1675-54-3		0.75 mg/kg [4] [6]***	4.93 mg/m ³ [4] [6]***

Derived No Effect Level (DNEL) - General Public No information available.

Chemical name	Oral	Dermal	Inhalation
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE 1675-54-3	0.5 mg/kg [4] [6]***	0.0893 mg/kg [4] [6]***	0.87 mg/m ³ [4] [6]***

Predicted No Effect Concentration (PNEC) No information available.

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE 1675-54-3	0.006 mg/L ***	0.018 mg/L ***	0.001 mg/L ***	0.002 mg/L ***	

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE 1675-54-3	0.341 mg/kg***	0.034 mg/kg***	10 mg/l***	0.065 mg/kg***	11 mg/kg food***

8.2. Exposure controls

Engineering controls

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles). According to EN 16321-1.***

Hand protection

Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Neoprene gloves. Nitrile rubber. Polyvinyl chloride (PVC). Butyl rubber. Gloves must conform to standard EN 374.***

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

General hygiene considerations

Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Avoid contact with skin, eyes or clothing. Wash face, hands and any exposed skin thoroughly after handling. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Viscous liquid
Colour	yellow
Odour	Slight.
Odour threshold	No information available

Property	Values	Remarks • Method
Melting point / freezing point	-16 °C	***
Initial boiling point and boiling range		No information available.
Flammability		No information available.
Flammability Limit in Air		No information available.
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point	264 - 268 °C	***
Autoignition temperature		No information available.

Decomposition temperature	> 320 °C	***
pH		No information available.
pH (as aqueous solution)		No information available.
Kinematic viscosity		No information available.
Dynamic viscosity	11000*** -*** 14000*** mPa s***	@ 20.0 °C.***
Water solubility	5.4 - 8.4 mg/l water @ 20°C	***
Solubility(ies)		No information available.
Partition coefficient	log Pow: 3.242	***
Vapour pressure	0 Pa @ 25°C	***
Relative density	1.16 @ 20°C	***
Bulk density		No information available
Liquid Density	No information available	No information available
Relative vapour density		No information available.
Particle characteristics		No information available.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	Not considered to be explosive.	
Oxidising properties	No information available	

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Stable under recommended storage conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Excessive heat.***

10.5. Incompatible materials

Incompatible materials Acids. Bases. Amines.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon oxides. May emit toxic fumes under fire conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure

Product Information

Inhalation	May cause irritation.***
Eye contact	Causes serious eye irritation.***
Skin contact	Causes skin irritation. May cause an allergic skin reaction.***
Ingestion	Gastrointestinal discomfort.***

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.

Acute toxicity

Numerical measures of toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMET HYLENE)]BISOXIRANE	> 15000 mg/kg (Rat)***	> 2000 mg/kg (Rat) 23000 mg/kg (Rabbit)***	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Causes skin irritation.***

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Causes skin irritation***
					Prolonged contact may cause redness and irritation***

Serious eye damage/eye irritation Causes serious eye irritation.***

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause eye irritation***
					Mild eye irritation***
					May cause slight corneal injury.***

Respiratory or skin sensitisation May cause an allergic skin reaction.***

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Species	Exposure route	Results
OECD Test No. 429: Skin Sensitization***	Mouse***	Dermal***	May cause an allergic skin reaction***

	Human evidence***	Dermal***	Sensitising***
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Germ cell mutagenicity No information available.

Component Information

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Species	Results
	in vitro***	In vitro genetic toxicity studies were negative in some cases and positive in other cases.***

Carcinogenicity Based on available data the classification criteria are not met.

Component Information

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Species	Results
		Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol A (DGEBA). Indeed, the most recent review of the available data by the International Agency for Research on Cancer (IARC) has concluded that DGEBA is not classified as a carcinogen. Although some weak evidence of carcinogenicity has been reported in animals, when all of the data are considered, the weight of evidence does not show that DGEBA is carcinogenic.***

Reproductive toxicity Based on available data the classification criteria are not met.

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Species	Results
		Did not cause birth defects or any other foetal effects in laboratory animals.***
		Resins based on the diglycidyl ether of bisphenol A (DGEBA) did not cause birth defects or other adverse effects on the foetus when pregnant rabbits were exposed by skin contact, the most likely route of exposure, or when pregnant rats or rabbits were exposed orally.***

STOT - single exposure Based on available data the classification criteria are not met.

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Evaluation of

					available data suggests that this material is not an STOT-SE toxicant***
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STOT - repeated exposure Based on available data the classification criteria are not met.

Component Information

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					Except for skin sensitization, repeated exposures to low molecular weight epoxy resins of this type are not anticipated to cause any significant adverse effects.***

Aspiration hazard Based on available data the classification criteria are not met.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Toxic to aquatic life with long lasting effects.***

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Oncorhynchus mykiss (rainbow trout)***	LC50	2 mg/L	96 hours	
	Daphnia magna***	EC50	1.8 mg/L	48 hours	
	Scenedesmus capricornutum***	ErC50***	11 mg/L	72 hours	
	Bacteria***	IC50***	>42.6 mg/L	18 hours	
	Daphnia magna***	NOEC	0.3 mg/L	21 days	
	Daphnia magna***	MATC***	0.55 mg/L ***	21 days***	

12.2. Persistence and degradability

Persistence and degradability Not readily biodegradable.

2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE (1675-54-3)

Method	Exposure time	Value	Results
OECD Test No. 302B: Inherent Biodegradability: Zahn-Wellens/ EVPA Test or Equivalent.***	28 days***	Biodegradation 12%***	Not readily biodegradable***

12.3. Bioaccumulative potential

Bioaccumulation No information available.

Component Information

Chemical name	Partition coefficient
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE	3.242***

12.4. Mobility in soil

Mobility in soil partially soluble.***

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

Contaminated packaging Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number UN3082***
 14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
 (2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE)***
 14.3 Transport hazard class(es) 9***
 14.4 Packing group III***
 14.5 Environmental hazards Yes***
 14.6 Special precautions for user
 Special Provisions A97, A158, A197***
 ERG Code 9L***

IMDG

14.1 UN number or ID number UN3082***
 14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
 (2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE)***
 14.3 Transport hazard class(es) 9***
 14.4 Packing group III***
 14.5 Environmental hazards Yes***
 14.6 Special precautions for user
 Special Provisions 274, 335, 969***

EmS-No F-A, S-F***
14.7 Maritime transport in bulk according to IMO instruments No information available

RID

14.1 UN number or ID number UN3082***
14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
(2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE)***
14.3 Transport hazard class(es) 9***
14.4 Packing group III***
14.5 Environmental hazards Yes***
14.6 Special precautions for user
Special Provisions 274, 335, 375, 601***
Classification code M6***

ADR

14.1 UN number or ID number UN3082***
14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.
(2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE)***
14.3 Transport hazard class(es) 9***
14.4 Packing group III***
14.5 Environmental hazards Yes***
14.6 Special precautions for user
Special Provisions 274, 335, 601, 375***
Classification code M6***
Tunnel restriction code (-)***

SECTION 15: Regulatory information

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

National regulations

Authorisations and/or restrictions on use:

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorisation per REACH Annex XIV
2,2'-[(1-METHYLETHYLIDENE)BIS(4,1-PHENYLENEOXYMETHYLENE)]BISOXIRANE - 1675-54-3	75***	-

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Dangerous substance category per COMAH Regulations 2015 (as amended)

E2 - Hazardous to the Aquatic Environment in Category Chronic 2

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECI	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status
AIIC	Contact supplier for inventory compliance status
NZIoC	Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report

A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Full text of H-Statements referred to under section 3

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

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note **SDS sections updated 1 16**

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Method Used

Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Prepared By Jitendra Panchal***

Supersedes date 05-Dec-2022

Revision date 22-Jun-2026

This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name BIS-[4-(2,3-EPOXI PROPOXI)PHENYL]PROPANE
Pure substance/mixture Substance
REACH registration number 01-2119456619-26-XXXX
CAS No 1675-54-3
EC No (EU Index No) 216-823-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Formulation & (re)packing of substances and mixtures
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC2 - Formulation of preparations (mixtures) ERC3 - Formulation in materials
Process category(ies) PROC3 - Use in closed batch process (synthesis or formulation)
 PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)
 - ERC3 - Formulation in materials

Covers concentrations up to 100%
Amounts used

Type	Daily amount per site
Value	80 000
Units	kg/d

Type	Annual amount per site
Value	25 000
Units	t(ons)/year

Product characteristics

Physical form of product	Liquid
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Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM)	0%
Release fraction to wastewater from process (initial release prior to RMM)	0.00007%
Release fraction to soil from process (initial release prior to RMM)	0%

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	5.253%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18000 m3/d
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Control of worker exposure

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection and gloves
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour	70 C

pressure	
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Local exhaust ventilation - efficiency of at least 95%
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.000586 Pa
Temperature associated to vapour pressure	50 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection and gloves
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	50 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC2 - Formulation of preparations (mixtures)
- ERC3 - Formulation in materials

Predicted No Effect Concentration (PNEC)

Freshwater	0.006 mg/l
Freshwater sediment	0.341 mg/kg
Marine water	0.001 mg/l
Marine sediment	0.034 mg/kg
Soil	0.065 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.00303 mg/l	0.505
Freshwater sediment	0.146 mg/kg	0.427
Marine water	0.000295 mg/l	0.491
Marine sediment	0.014 mg/kg	0.416

STP: Sewage Treatment Plant	0.027 mg/l	<0.01
Soil	0.047 mg/kg	0.727

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic

0.75 mg/kg

Worker - inhalative, long-term - systemic

4.93 mg/m³

Calculation method	Used ECETOC TRA model		
Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - systemic	1.418 mg/m ³	0.288
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, long-term - systemic	0.138 mg/kg/day	0.184
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - combined, long-term - systemic		0.472
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - inhalative, long-term - systemic	0.993 mg/m ³	0.201
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - dermal, long-term - systemic	0.343 mg/kg/day	0.457
PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises	Worker - combined, long-term - systemic		0.659
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - systemic	0.071 mg/m ³	0.014
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	0.686 mg/kg/day	0.914
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - combined, long-term - systemic		0.928
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - systemic	0.993 mg/m ³	
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - dermal, long-term - systemic	0.343 mg/kg/day	0.457
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - combined, long-term - systemic		0.659

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name BIS-[4-(2,3-EPOXI)PHENYL]PROPANE
Pure substance/mixture Substance
REACH registration number 01-2119456619-26-XXXX
CAS No 1675-54-3
EC No (EU Index No) 216-823-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Polymer production
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
 ERC6c - Industrial use of monomers for manufacture of thermoplastics
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles
 - ERC6c - Industrial use of monomers for manufacture of thermoplastics

Covers concentrations up to 100%
Amounts used

Type	Daily amount per site
Value	200 000
Units	kg/d

Type	Annual amount per site
Value	35 000
Units	t(ons)/year

Product characteristics

Physical form of product	Liquid
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Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM)	0%
Release fraction to wastewater from process (initial release prior to RMM)	0.00003%
Release fraction to soil from process	0%

(initial release prior to RMM)	
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	5.253%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18000 m3/d
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection and gloves
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection and gloves
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa

Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection and gloves
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC4 - Industrial use of processing aids in processes and products, not becoming part of articles

- ERC6c - Industrial use of monomers for manufacture of thermoplastics

Predicted No Effect Concentration (PNEC)

Freshwater	0.006 mg/l
Freshwater sediment	0.341 mg/kg
Marine water	0.001 mg/l
Marine sediment	0.034 mg/kg
Soil	0.065 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.00322 mg/l	0.536
Freshwater sediment	0.155 mg/kg	0.454

Marine water	0.000314 mg/l	0.523
Marine sediment	0.015 mg/kg	0.442
STP: Sewage Treatment Plant	0.028 mg/l	<0.01
Soil	0.05 mg/kg	0.779

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic

0.75 mg/kg

Worker - inhalative, long-term - systemic

4.93 mg/m³

Calculation method	Used ECETOC TRA model		
Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - systemic	0.142 mg/m ³	0.029
PROC1 - Use in closed process, no likelihood of exposure	Worker - dermal, long-term - systemic	0.0068 mg/kg/day	<0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - combined, long-term - systemic		0.038
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - systemic	0.993 mg/m ³	0.201
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - dermal, long-term - systemic	0.274 mg/kg/day	0.365
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - combined, long-term - systemic		0.567
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - systemic	0.993 mg/m ³	0.201
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, long-term - systemic	0.138 mg/kg/day	0.184
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - combined, long-term - systemic		0.385
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - systemic	0.071 mg/m ³	0.014
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	0.686 mg/kg/day	0.914
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - combined, long-term - systemic		0.928

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name BIS-[4-(2,3-EPOXI)PHENYL]PROPANE
Pure substance/mixture Substance
REACH registration number 01-2119456619-26-XXXX
CAS No 1675-54-3
EC No (EU Index No) 216-823-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
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Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

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Section 1 - Title

Title Use as an intermediate
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Process category(ies) PROC1 - Use in closed process, no likelihood of exposure
 PROC2 - Use in closed, continuous process with occasional controlled exposure
 PROC3 - Use in closed batch process (synthesis or formulation)
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Covers concentrations up to 100%
Amounts used

Type	Daily amount per site
Value	40 000
Units	kg/d

Type	Annual amount per site
Value	12 000
Units	t(ons)/year

Product characteristics

Physical form of product	Liquid
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Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM)	0%
Release fraction to wastewater from process (initial release prior to RMM)	0.00015%
Release fraction to soil from process (initial release prior to RMM)	0.1%

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	5.253%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18000 m3/d
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Control of worker exposure

Process category(ies)	PROC1 - Use in closed process, no likelihood of exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection and gloves
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC2 - Use in closed, continuous process with occasional controlled exposure
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection and gloves
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC3 - Use in closed batch process (synthesis or formulation)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).

Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection and gloves
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Local exhaust ventilation - efficiency of at least 95%
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Predicted No Effect Concentration (PNEC)

Freshwater	0.006 mg/l
Freshwater sediment	0.341 mg/kg
Marine water	0.001 mg/l
Marine sediment	0.034 mg/kg
Soil	0.065 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.00322 mg/l	0.536
Freshwater sediment	0.155 mg/kg	0.454
Marine water	0.000314 mg/l	0.523
Marine sediment	0.015 mg/kg	0.442
STP: Sewage Treatment Plant	0.028 mg/l	<0.01
Soil	0.05 mg/kg	0.779

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic

0.75 mg/kg

Worker - inhalative, long-term - systemic

4.93 mg/m³

Calculation method

Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC1 - Use in closed process, no likelihood of exposure	Worker - inhalative, long-term - systemic	0.142 mg/m ³	0.029
PROC1 - Use in closed process, no likelihood of exposure	Worker - dermal, long-term - systemic	0.0068 mg/kg/day	<0.01
PROC1 - Use in closed process, no likelihood of exposure	Worker - combined, long-term - systemic		0.038
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - inhalative, long-term - systemic	0.993 mg/m ³	0.201
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - dermal, long-term - systemic	0.274 mg/kg/day	0.365
PROC2 - Use in closed, continuous process with occasional controlled exposure	Worker - combined, long-term - systemic		0.567
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - inhalative, long-term - systemic	0.993 mg/m ³	0.201
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - dermal, long-term - systemic	0.138 mg/kg/day	0.184
PROC3 - Use in closed batch process (synthesis or formulation)	Worker - combined, long-term - systemic		0.385
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - systemic	0.071 mg/m ³	0.014
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	0.686 mg/kg/day	0.914
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - combined, long-term - systemic		0.928

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

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Pure substance/mixture Substance
REACH registration number 01-2119456619-26-XXXX
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Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
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Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

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Section 1 - Title

Title Use in coatings (Industrial)
Type Worker
Main user group Industrial uses: Uses of substances as such or in preparations at industrial sites
Environmental release category(ies) ERC6c - Industrial use of monomers for manufacture of thermoplastics
Process category(ies) PROC7 - Industrial spraying
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
 PROC10 - Roller application or brushing
 PROC13 - Treatment of articles by dipping and pouring
 PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
 PROC15 - Use as laboratory reagent
Sector(s) of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC6c - Industrial use of monomers for manufacture of thermoplastics

Covers concentrations up to 100%
Amounts used

Type	Daily amount per site
Value	100 000
Units	kg/d

Type	Annual amount per site
Value	30 000
Units	t(ons)/year

Product characteristics

Physical form of product	Liquid
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Other operational conditions of use affecting environmental exposure

Release fraction to air from process (initial release prior to RMM)	0%
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Release fraction to wastewater from process (initial release prior to RMM)	0.00006%
Release fraction to soil from process (initial release prior to RMM)	0%

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	5.253%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18000 m3/d
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Control of worker exposure	
Process category(ies)	PROC7 - Industrial spraying
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to
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	vessels/large containers at dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	50 C

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Provide extract ventilation to points where emissions occur
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	70 C

Process category(ies)	PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Assumes process temperature up to	40 C
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Section 3 - Exposure estimation

Environmental release category(ies) - ERC6c - Industrial use of monomers for manufacture of thermoplastics

Predicted No Effect Concentration (PNEC)

Freshwater	0.006 mg/l
Freshwater sediment	0.341 mg/kg
Marine water	0.001 mg/l
Marine sediment	0.034 mg/kg
Soil	0.065 mg/kg
Impact on Sewage Treatment	10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.00322 mg/l	0.536
Freshwater sediment	0.155 mg/kg	0.454
Marine water	0.000314 mg/l	0.523
Marine sediment	0.015 mg/kg	0.442
STP: Sewage Treatment Plant	0.028 mg/l	<0.01
Soil	0.05 mg/kg	0.779

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic	0.75 mg/kg
Worker - inhalative, long-term - systemic	4.93 mg/m ³

Calculation method Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC7 - Industrial spraying	Worker - inhalative, long-term - systemic	0.34 mg/m ³	0.069
PROC7 - Industrial spraying	Worker - dermal, long-term - systemic	0.257 mg/kg/day	0.343
PROC7 - Industrial spraying	Worker - combined, long-term - systemic		0.412
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - systemic	0.851 mg/m ³	0.173
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - dermal, long-term - systemic	0.411 mg/kg/day	0.548
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - combined, long-term - systemic		0.721
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - systemic	0.851 mg/m ³	0.173

PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	0.411 mg/kg/day	0.548
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - combined, long-term - systemic		0.721
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - inhalative, long-term - systemic	0.993 mg/m ³	0.201
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - dermal, long-term - systemic	0.343 mg/kg/day	0.457
PROC9 - Transfer of substance or preparation into small containers (dedicated filling line, including weighing)	Worker - combined, long-term - systemic		0.659
PROC10 - Roller application or brushing	Worker - inhalative, long-term - systemic	0.085 mg/m ³	0.017
PROC10 - Roller application or brushing	Worker - dermal, long-term - systemic	0.165 mg/kg/day	0.219
PROC10 - Roller application or brushing	Worker - combined, long-term - systemic		0.237
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - systemic	0.851 mg/m ³	0.173
PROC13 - Treatment of articles by dipping and pouring	Worker - dermal, long-term - systemic	0.411 mg/kg/day	0.548
PROC13 - Treatment of articles by dipping and pouring	Worker - combined, long-term - systemic		0.721
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - inhalative, long-term - systemic	0.993 mg/m ³	0.201
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - dermal, long-term - systemic	0.172 mg/kg/day	0.229
PROC14 - Production of preparations or articles by tableting, compression, extrusion, pelettising	Worker - combined, long-term - systemic		0.43
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - systemic	0.993 mg/m ³	0.201
PROC15 - Use as laboratory reagent	Worker - dermal, long-term - systemic	0.034 mg/kg/day	0.045
PROC15 - Use as laboratory reagent	Worker - combined, long-term - systemic		0.247

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name BIS-[4-(2,3-EPOXI PROPOXI)PHENYL]PROPANE
Pure substance/mixture Substance
REACH registration number 01-2119456619-26-XXXX
CAS No 1675-54-3
EC No (EU Index No) 216-823-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Use in coatings (Professional)
Type Worker
Main user group Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Environmental release category(ies) ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
Process category(ies) PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
 PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
 PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
 PROC10 - Roller application or brushing
 PROC11 - Non industrial spraying
 PROC13 - Treatment of articles by dipping and pouring
 PROC15 - Use as laboratory reagent
 PROC19 - Hand-mixing with intimate contact and only PPE available
Sector(s) of use SU22 - Professional uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
 - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Covers concentrations up to 100%
Amounts used

Type	Daily amount for wide dispersive uses
Value	50
Units	kg/d

Product characteristics

Physical form of product	Liquid
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Other operational conditions of use affecting environmental exposure

Release fraction to air from wide dispersive use (regional only)	0%
Release fraction to wastewater from wide dispersive use	0.12%

Release fraction to soil from wide dispersive use (regional only)	0%
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Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m3/d
Removal efficiency (total)	5.253%
Sludge treatment	Controlled application to agricultural soil

Environmental factors not influenced by risk management

Receiving water dilution (fresh or marine)	18000 m3/d
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Control of worker exposure

Process category(ies)	PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Process category(ies)	PROC8b - Transfer of substance or preparation (charging/discharging) from/to
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	vessels/large containers at dedicated facilities
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Process category(ies)	PROC10 - Roller application or brushing
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC11 - Non industrial spraying
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C
Process category(ies)	PROC13 - Treatment of articles by dipping and pouring
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C
Process category(ies)	PROC15 - Use as laboratory reagent
Covers concentrations up to	100%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Indoor/Outdoor use	Indoor

Assumes process temperature up to	40 C
Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour) Provide extract ventilation to points where emissions occur
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Covers skin contact area up to	960 cm2
Indoor/Outdoor use	Indoor
Assumes process temperature up to	40 C

Process category(ies)	PROC19 - Hand-mixing with intimate contact and only PPE available
Covers concentrations up to	25%
Physical form of product	Liquid
Vapour pressure	0.00741 Pa
Temperature associated to vapour pressure	70 C
Use frequency	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Provide a basic standard of general ventilation (1 to 3 air changes per hour)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection Wear chemically resistant gloves (tested to EN 374) in combination with specific activity training Wear a respirator providing a minimum efficiency of 90%
Organisational measures to prevent /limit releases, dispersion and exposure	Assumes a good basic standard of occupational hygiene is implemented
Covers skin contact area up to	960 cm2
Indoor/Outdoor use	Outdoor
Assumes process temperature up to	40 C

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
- ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Predicted No Effect Concentration (PNEC)

Freshwater	0.006 mg/l
Freshwater sediment	0.341 mg/kg
Marine water	0.001 mg/l
Marine sediment	0.034 mg/kg

Soil 0.065 mg/kg
Impact on Sewage Treatment 10 mg/l

Calculation method Used EUSES model

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.00322 mg/l	0.536
Freshwater sediment	0.155 mg/kg	0.454
Marine water	0.000314 mg/l	0.523
Marine sediment	0.015 mg/kg	0.442
STP: Sewage Treatment Plant	0.028 mg/l	<0.01
Soil	0.05 mg/kg	0.779

Derived No Effect Level (DNEL):

Worker - dermal, long-term - systemic 0.75 mg/kg
Worker - inhalative, long-term - systemic 4.93 mg/m³

Calculation method Used ECETOC TRA model

Process category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - inhalative, long-term - systemic	0.596 mg/m ³	0.121
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - dermal, long-term - systemic	0.411 mg/kg/day	0.548
PROC5 - Mixing or blending in batch processes for formulation of preparations and articles (multi-stage and/or significant contact)	Worker - combined, long-term - systemic		0.669
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - inhalative, long-term - systemic	0.596 mg/m ³	0.121
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - dermal, long-term - systemic	0.411 mg/kg/day	0.548
PROC8a - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non dedicated facilities	Worker - combined, long-term - systemic		0.669
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - inhalative, long-term - systemic	0.596 mg/m ³	0.121
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - dermal, long-term - systemic	0.411 mg/kg/day	0.548
PROC8b - Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities	Worker - combined, long-term - systemic		0.669

PROC10 - Roller application or brushing	Worker - inhalative, long-term - systemic	0.059 mg/m ³	0.012
PROC10 - Roller application or brushing	Worker - dermal, long-term - systemic	0.165 mg/kg/day	0.219
PROC10 - Roller application or brushing	Worker - combined, long-term - systemic		0.231
PROC11 - Non industrial spraying	Worker - inhalative, long-term - systemic	0.34 mg/m ³	0.069
PROC11 - Non industrial spraying	Worker - dermal, long-term - systemic	0.643 mg/kg/day	0.857
PROC11 - Non industrial spraying	Worker - combined, long-term - systemic		0.926
PROC11 - Non industrial spraying	Worker - inhalative, long-term - systemic	0.295 mg/m ³	0.06
PROC11 - Non industrial spraying	Worker - dermal, long-term - systemic	0.643 mg/kg/day	0.857
PROC11 - Non industrial spraying	Worker - combined, long-term - systemic		0.917
PROC13 - Treatment of articles by dipping and pouring	Worker - inhalative, long-term - systemic	0.596 mg/m ³	0.121
PROC13 - Treatment of articles by dipping and pouring	Worker - dermal, long-term - systemic	0.411 mg/kg/day	0.548
PROC13 - Treatment of articles by dipping and pouring	Worker - combined, long-term - systemic		0.669
PROC15 - Use as laboratory reagent	Worker - inhalative, long-term - systemic	0.993 mg/m ³	0.201
PROC15 - Use as laboratory reagent	Worker - dermal, long-term - systemic	0.034 mg/kg/day	0.045
PROC15 - Use as laboratory reagent	Worker - combined, long-term - systemic		0.247
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - systemic	0.17 mg/m ³	0.034
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - dermal, long-term - systemic	0.411 mg/kg/day	0.549
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - combined, long-term - systemic		0.583
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - inhalative, long-term - systemic	0.059 mg/m ³	0.012
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - dermal, long-term - systemic	0.411 mg/kg/day	0.549
PROC19 - Hand-mixing with intimate contact and only PPE available	Worker - combined, long-term - systemic		0.561

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Annex to the Safety Data Sheet according to Regulation (EC) No 1907/2006 [REACH]

Chemical name BIS-[4-(2,3-EPOXI PROPOXI)PHENYL]PROPANE
Pure substance/mixture Substance
REACH registration number 01-2119456619-26-XXXX
CAS No 1675-54-3
EC No (EU Index No) 216-823-5
Supplier Univar Solutions UK Ltd
 Aquarius House
 6 Mid Point Business Park
 Bradford
 GBR

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

E-mail address SDS.EMEA@univarsolutions.com

Section 1 - Title

Title Consumer use
Type Consumer
Main user group Consumer uses: Private households (= general public = consumers)
Environmental release category(ies) ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix
Product category(ies) PC1 - Adhesives, sealants PC9 - Coatings and paints, fillers, putties, thinners PC9b - Fillers, putties, plasters, modelling clay
Sector(s) of use SU21 - Consumer uses

Section 2 - Operational conditions and risk management measures

Section 2.1 - Control of environmental exposure

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix
 - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Amounts used

Type	Daily amount for wide dispersive uses
Value	1
Units	kg/d

Product characteristics

Physical form of product	Liquid
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Other operational conditions of use affecting environmental exposure

Release fraction to air from wide dispersive use (regional only)	0%
Release fraction to wastewater from wide dispersive use	1.5%
Release fraction to soil from wide dispersive use (regional only)	0%

Conditions and measures related to municipal sewage treatment plant

Assumed domestic sewage treatment plant flow	2000 m ³ /d
Removal efficiency (total)	5.253%

Conditions and measures related to external treatment of waste for disposal

Waste treatment methods	Household solid waste (e.g., product packaging) is treated at municipal waste disposal sites
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Control of consumer exposure	
Product categories [PC]	PC1 - Adhesives, sealants
Covers concentrations up to	100%
Amounts used	20 g/event
Exposure duration	Avoid carrying out operation for more than 5 minutes
Use frequency	Covers use up to 1 events per day
Covers skin contact area up to	2 cm ²
Use in room with a volume of minimum	1 m ³
Minimum room ventilation rate for handling/application (air changes per hour)	0.6
Product categories [PC]	PC1 - Adhesives, sealants
Covers concentrations up to	100%
Amounts used	20 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers use up to 1 events per day
Covers skin contact area up to	2 cm ²
Use in room with a volume of minimum	20 m ³
Minimum room ventilation rate for handling/application (air changes per hour)	0.6
Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Covers concentrations up to	100%
Amounts used	3750 g/event
Exposure duration	Avoid carrying out operation for more than 5 minutes
Use frequency	Covers use up to 1 events per day
Covers skin contact area up to	430 cm ²
Use in room with a volume of minimum	1 m ³
Minimum room ventilation rate for handling/application (air changes per hour)	0.6
Product categories [PC]	PC9a - Coatings and paints, thinners, paint removers
Covers concentrations up to	100%
Amounts used	3750 g/event
Exposure duration	Avoid carrying out operation for more than 2.2 hours
Use frequency	Covers use up to 1 events per day
Covers skin contact area up to	860 cm ²
Use in room with a volume of minimum	20 m ³
Minimum room ventilation rate for handling/application (air changes per hour)	0.6
Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Covers concentrations up to	100%
Amounts used	200 g/event
Exposure duration	Avoid carrying out operation for more than 5 minutes
Use frequency	Covers use up to 1 events per day
Covers skin contact area up to	2 cm ²
Use in room with a volume of minimum	1 m ³
Minimum room ventilation rate for handling/application (air changes per hour)	0.6

hour)	
Product categories [PC]	PC9b - Fillers, putties, plasters, modelling clay
Covers concentrations up to	100%
Amounts used	200 g/event
Exposure duration	Avoid carrying out activities involving exposure for more than 4 hours
Use frequency	Covers use up to 1 events per day
Covers skin contact area up to	22 cm ²
Use in room with a volume of minimum	20 m ³
Minimum room ventilation rate for handling/application (air changes per hour)	0.6

Section 3 - Exposure estimation

Environmental release category(ies) - ERC8c - Wide dispersive indoor use resulting in inclusion into or onto a matrix - ERC8f - Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Predicted No Effect Concentration (PNEC)

Freshwater	0.006 mg/l
Freshwater sediment	0.341 mg/kg
Marine water	0.001 mg/l
Marine sediment	0.034 mg/kg
Soil	0.065 mg/kg
Impact on Sewage Treatment	10 mg/l

Environment	predicted exposure level	Risk characterisation ratio (RCR)
Freshwater	0.00109 mg/l	0.181
Freshwater sediment	0.052 mg/kg	0.153
Marine water	0.0001 mg/l	0.167
Marine sediment	0.00483 mg/kg	0.142
STP: Sewage Treatment Plant	0.00711 mg/l	<0.01
Soil	0.013 mg/kg	0.195

Derived No Effect Level (DNEL):

Consumer - oral, long-term - systemic	0.5 mg/kg/day
Consumer - dermal, long-term - systemic	0.0893 mg/kg/day
Consumer - inhalative, long-term - systemic	0.87 mg/m ³

Calculation method

The Consexpo model has been used to estimate consumer exposures unless otherwise indicated

Product category(ies)	Exposure route	predicted exposure level	Risk characterisation ratio (RCR)
PC1 - Adhesives, sealants	Consumer - inhalative, long-term - systemic	0.000000052 mg/m ³	<0.01
PC1 - Adhesives, sealants	Consumer - dermal, long-term - systemic	0.015 mg/kg/day	0.168
PC1 - Adhesives, sealants	Consumer - oral, long-term - systemic	0 mg/kg/day	<0.01
PC1 - Adhesives, sealants	Consumer - combined, long-term - systemic		0.168
PC1 - Adhesives, sealants	Consumer - inhalative,	0.00000015 mg/m ³	<0.01

	long-term - systemic		
PC1 - Adhesives, sealants	Consumer - dermal, long-term - systemic	0.015 mg/kg/day	0.168
PC1 - Adhesives, sealants	Consumer - oral, long-term - systemic	0 mg/kg/day	<0.01
PC1 - Adhesives, sealants	Consumer - combined, long-term - systemic		0.168
PC9a - Coatings and paints, thinners, paint removers	Consumer - inhalative, long-term - systemic	0.000000024 mg/m ³	<0.01
PC9a - Coatings and paints, thinners, paint removers	Consumer - dermal, long-term - systemic	0.015 mg/kg/day	0.168
PC9a - Coatings and paints, thinners, paint removers	Consumer - oral, long-term - systemic	0 mg/kg/day	<0.01
PC9a - Coatings and paints, thinners, paint removers	Consumer - combined, long-term - systemic		0.168
PC9a - Coatings and paints, thinners, paint removers	Consumer - inhalative, long-term - systemic	0.0000044 mg/m ³	<0.01
PC9a - Coatings and paints, thinners, paint removers	Consumer - dermal, long-term - systemic	0.015 mg/kg/day	0.168
PC9a - Coatings and paints, thinners, paint removers	Consumer - oral, long-term - systemic	0 mg/kg/day	<0.01
PC9a - Coatings and paints, thinners, paint removers	Consumer - combined, long-term - systemic		0.168
PC9b - Fillers, putties, plasters, modelling clay	Consumer - inhalative, long-term - systemic	0.000000026 mg/m ³	<0.01
PC9b - Fillers, putties, plasters, modelling clay	Consumer - dermal, long-term - systemic	0.015 mg/kg/day	0.168
PC9b - Fillers, putties, plasters, modelling clay	Consumer - oral, long-term - systemic	0 mg/kg/day	<0.01
PC9b - Fillers, putties, plasters, modelling clay	Consumer - combined, long-term - systemic		0.168
PC9b - Fillers, putties, plasters, modelling clay	Consumer - inhalative, long-term - systemic	0.000000015 mg/m ³	<0.01
PC9b - Fillers, putties, plasters, modelling clay	Consumer - dermal, long-term - systemic	0.015 mg/kg/day	0.168
PC9b - Fillers, putties, plasters, modelling clay	Consumer - oral, long-term - systemic	0 mg/kg/day	<0.01
PC9b - Fillers, putties, plasters, modelling clay	Consumer - combined, long-term - systemic		0.168

Section 4 - Guidance to check compliance with the exposure scenario

Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.