

SAFETY DATA SHEET

M-Bond AE Resin

ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP)
& 2020/878

www.vpgsensors.com
Date of issue: 06/01/2023
Date of First Issue: 20/03/2012
Version 5.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier		
Product Name	M-Bond AE Resin	
Product Code	Not applicable	
Unique Formula Identifier (UFI)	Not applicable	
Nanoform	The product does not contain nanoparticles.	
1.2 Relevant identified uses of the substance or mixture and uses advised against		
Identified Use(s)	Adhesive.	
Uses Advised Against	Anything other than the above.	
1.3 Details of the supplier of the safety data sheet		
Company Identification	VISHAY MEASUREMENTS GROUP GMBH Tatschenweg 1 74078 Heilbronn Deutschland	
Telephone	+49 (0) 7131 39099-0	
Fax	+49 (0) 7131 39099-229	
E-Mail (competent person)	mm.de@vpgsensors.com	
1.4 Emergency telephone number		
National Poisons Information Service (United Kingdom)	+44 (0) 3448 920111	24 hr. emergency phone number Healthcare Professionals ONLY
NHS 24	111	Members of Public
Emergency Phone No.	(00-1) 703-527-3887	CHEMTREC (24 hours)
Languages spoken	All official European languages.	

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture		
2.1.1 Regulation (EC) No. 1272/2008 (CLP)	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Dam. 1; H318 Muta. 2; H341 STOT SE 2; H371 Aquatic Chronic 2; H411	
2.2 Label elements		
Product Name	M-Bond AE Resin	
Hazard Pictogram(s)		
Signal Word(s)	DANGER	
Contains:	Bis-[4-(2,3-epoxipropoxy)phenyl] propane; Bisphenol A Diglycidyl Ether; 2,3-Epoxypropyl o-tolyl ether; Resorcinol.	
Hazard Statement(s)	H315: Causes skin irritation.	

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Precautionary Statement(s)	<p>H317: May cause an allergic skin reaction. H318: Causes serious eye damage. H341: Suspected of causing genetic defects. H371: May cause damage to organs. H411: Toxic to aquatic life with long lasting effects.</p> <p>P260: Do not breathe mist/vapours/spray. 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. P310: Immediately call a POISON CENTER/doctor. P391: Collect spillage.</p>
Supplemental information	None Known
2.3 Other hazards	None Known

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances - Not applicable.

3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard classification
Bis-[4-(2,3-epoxipropoxy)phenyl] propane	50 - < 75	1675-54-3	216-823-5	Not yet assigned in the supply chain	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Aquatic Chronic 2; H411
Bisphenol A Diglycidyl Ether (mw <700)	15 - < 25	25085-99-8	607-537-5	Not yet assigned in the supply chain	Skin Irrit. 2; H315 Skin Sens. 1; H317 Eye Irrit. 2; H319 Aquatic Chronic 2; H411
2,3-Epoxypropyl o-tolyl ether	3 - < 5	2210-79-9	218-645-3	Not yet assigned in the supply chain	Skin Irrit. 2; H315 Skin Sens. 1; H317 Muta. 2; H341 Aquatic Chronic 2; H411
Resorcinol	3 - < 5	108-46-3	203-585-2	Not yet assigned in the supply chain	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1B; H317 STOT SE 1; H370 (Blood, Central nervous system, Oral) STOT SE 2; H371 (Respiratory system, Oral) Aquatic Acute 1; H400 Aquatic Chronic 3; H412

Specific concentration limit (SCL) & M-factor

Chemical identity of the substance	CAS No.	EC No.	Specific concentration limit (SCL)	M-factor
Bis-[4-(2,3-epoxipropoxy)phenyl] propane	1675-54-3	216-823-5	Skin Irrit. 2; H315: C ≥ 5% Eye Irrit. 2; H319 : C ≥ 5%	-
Resorcinol	108-46-3	203-585-2	-	Acute: 1

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Note: For full text of H phrases see section 16.

SECTION 4: FIRST AID MEASURES



4.1 Description of first aid measures

Self-protection of the first aider

Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Ensure adequate ventilation. Avoid all contact. Do not breathe vapour.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF exposed or concerned: Get medical advice/attention.

Skin Contact

IF ON SKIN: Remove contaminated clothing and wash all affected areas with plenty of water. If irritation (redness, rash, blistering) develops, get medical attention. IF exposed or concerned: Get medical advice/attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Ingestion

IF SWALLOWED: Rinse mouth. Make victim drink plenty of water. Do not induce vomiting unless instructed to do so by medical personnel. Call a POISON CENTER/doctor if you feel unwell. IF exposed or concerned: Get medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Causes skin irritation. May cause an allergic skin reaction. Causes serious eye damage. Suspected of causing genetic defects. May cause damage to organs.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Notes to a physician:

IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist. Following severe exposure the patient should be kept under medical review for at least 48 hours.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing media

As appropriate for surrounding fire. Extinguish with carbon dioxide, dry chemical, foam or waterspray.

Unsuitable extinguishing media

Do not use water jet. Direct water jet may spread the fire.

5.2 Special hazards arising from the substance or mixture

May decompose in a fire giving off toxic fumes. Decomposes in a fire giving off toxic fumes: Phenolics, Carbon monoxide and Carbon dioxide.

5.3 Advice for fire-fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Do not allow to enter drains, sewers or watercourses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Stop leak if safe to do so. Use personal protective equipment as required. Wear appropriate personal protective equipment, avoid direct contact. Do not breathe vapour. Avoid all contact. Do not ingest. If swallowed then seek immediate medical assistance. Isolate the area and allow vapours to disperse.

6.2 Environmental precautions

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body.

6.3 Methods and material for containment and cleaning up

Absorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a container for disposal. Ventilate the area and wash spill site after material pick-up is complete. Dispose of this material and its container as hazardous waste

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6.4 Reference to other sections See Section: 8, 13

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Avoid all contact. Do not breathe vapour. Ensure adequate ventilation. Wear appropriate personal protective equipment, avoid direct contact. Use personal protective equipment as required. See Section: 8. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Contaminated clothing should be laundered before reuse.
- 7.2 Conditions for safe storage, including any incompatibilities**
Storage temperature: Store in a well-ventilated place. Keep container tightly closed. Keep cool. Keep away from heat, sources of ignition and direct sunlight.
Storage life: Ambient. Keep at temperature not exceeding (°C): 27
Incompatible materials: Stable under normal conditions.
Keep away from: Flammable liquids, Strong Oxidizing agents, Corrosive Substances, Strong Acids and strong mineral and organic bases, especially primary and secondary aliphatic amines.
- Storage class (TRGS 510) LGK 10
- 7.3 Specific end use(s)** See Section: 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1 Control parameters**
8.1.1 Occupational Exposure Limits

United Kingdom

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note
Resorcinol	108-46-3	10	46	20	92	Sk

Source: UK WEL: Workplace Exposure Limit (UK HSE EH40)

Notations:

Sk: Can be absorbed through skin.

Ireland

SUBSTANCE	CAS No.	Occupational Exposure Limit Value (8-hour reference period)		Occupational Exposure Limit Value (15-minute reference period)		Notes
		ppm	mg/m ³	ppm	mg/m ³	
Resorcinol	108-46-3	10	45	-	-	Sk, IOELV

Source: 2021 Code of Practice for Safety, Health and Welfare at Work (Chemical Agents) Regulation (2001 – 2021) and the Safety, Health and Welfare at Work (Carcinogens) Regulations (2001 – 2019); Health and Safety Authority

Notations:

IOELV: Indicative Occupational Exposure Limit Value

Sk: Can be absorbed through skin.

- 8.1.2 Biological limit value** Not established.
- 8.1.3 PNECs and DNELs** Not established.
- 8.2 Exposure controls**
- 8.2.1 Appropriate engineering controls** Ensure adequate ventilation or use appropriate containment. Atmospheric levels should be controlled in compliance with the occupational exposure limit. A washing facility/water for eye and skin cleaning purposes should be present.
- 8.2.2 Individual protection measures, such as personal protective equipment (PPE)** General hygiene measures for the handling of chemicals are applicable. Avoid all contact. Do not breathe vapour. Wash hands before breaks and after work. Keep

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work clothes separately. Contaminated clothing should be laundered before reuse. Do not eat, drink or smoke at the work place.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

Eye/ face protection



Wear protective eye glasses for protection against liquid splashes. Wear eye protection with side protection (EN166).

Skin protection



Hand protection:

Wear impervious gloves (EN374). Gloves should be changed regularly to avoid permeation problems. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.

Respiratory protection



Body protection:

Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Use only in well-ventilated areas. In case of inadequate ventilation wear respiratory protection. Open system(s): Wear suitable respiratory protective equipment. Select a filter suitable for organic gases and vapours. Recommended: EN143, Filter type A.

Thermal hazards

Not applicable

8.2.3 Environmental exposure controls

Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Amber
Odour	Faint Epoxy Odour
Melting point and freezing point	No data available
Boiling point or initial boiling point and boiling range	No data available
Flammability	No data available
Lower and upper explosion limit or lower and upper flammability limit	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	No data available
Kinematic viscosity	No data available
Solubility	The substance is essentially insoluble in water.
Partition coefficient: n-octanol/water (log value)	Not applicable
Vapour pressure	1 @ 118°C (mmHg)
Density and/or relative density	1.15 (H ₂ O = 1)
Relative vapour density	>3.8 (Air = 1)
Particle characteristics	Not applicable

9.2 Other information

Explosive properties	Not explosive.
Oxidising properties	Not oxidising.

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SECTION 10: STABILITY AND REACTIVITY

10.1	Reactivity	Stable under normal conditions.
10.2	Chemical stability	Stable under normal conditions.
10.3	Possibility of hazardous reactions	Hazardous polymerisation will not occur.
10.4	Conditions to avoid	Keep away from heat, sources of ignition and direct sunlight. Keep at temperature not exceeding (°C): 27
10.5	Incompatible materials	Flammable liquids, Strong Oxidizing agents, Corrosive Substances, Strong Acids and strong mineral and organic bases, especially primary and secondary aliphatic amines.
10.6	Hazardous decomposition product(s)	Decomposes in a fire giving off toxic fumes: Phenolics, Carbon monoxide and Carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1	Information on hazard classes as defined in Regulation (EC) No 1272/2008	
	Acute toxicity	
	Ingestion	Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LD50 > 2000 mg/kg bw/day
	Inhalation	Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LC50 > 20 mg/l. (Vapour)
	Skin Contact	Mixture: Based upon the available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: Estimated LD50 > 2000 mg/kg bw/day
	Skin corrosion/irritation	Mixture: Skin Irrit. 2: H315: Causes skin irritation.
	Bis-[4-(2,3-epoxipropoxy)phenyl] propane	Skin Irrit. 2: H315: Causes skin irritation. (SCL ≥ 5%). Harmonised Classification Slightly irritating to skin. (rabbit) (OECD 404)
	Bisphenol A Diglycidyl Ether (mw <700)	Skin Irrit. 2: H315: Causes skin irritation. No data. EU classification and labelling inventory, ≥ 700 Notifiers
	2,3-Epoxypropyl o-tolyl ether	Skin Irrit. 2: H315: Causes skin irritation. Harmonised Classification Not irritating to skin (rabbit) (OECD 404)
	Resorcinol	Skin Irrit. 2: H315: Causes skin irritation. Harmonised Classification Test Result: Irritating to skin. (in vivo; FHSLA)
	Serious eye damage/irritation	Mixture: Eye Dam. 1; H318: Causes serious eye damage.
	Bis-[4-(2,3-epoxipropoxy)phenyl] propane:	Eye Irrit. 2; H319: Causes serious eye irritation. (SCL ≥ 5%) Harmonised Classification Not irritating to eyes (rabbit) (OECD 405)
	Bisphenol A Diglycidyl Ether (mw <700)	Eye Irrit. 2; H319: Causes serious eye irritation. No data. EU classification and labelling inventory, ≥ 700 Notifiers
	Resorcinol:	Eye Dam. 1; H318: Causes serious eye damage. Harmonised Classification Test Result: Causes serious eye damage. (In vivo; FHSLA) (Flickinger, 1976) ECHA Registration Endpoint summary
	Respiratory or skin sensitization	Mixture: Skin Sens. 1: H317: May cause an allergic skin reaction.
	Bis-[4-(2,3-epoxipropoxy)phenyl] propane	Skin Sens. 1: H317: May cause an allergic skin reaction. Harmonised Classification Positive - sensitising. (Mouse) (OECD 429) ECHA Registration Endpoint summary
	Bisphenol A Diglycidyl Ether (mw <700)	Skin Sens. 1: H317: May cause an allergic skin reaction. No data. EU classification and labelling inventory, ≥ 700 Notifiers
	2,3-Epoxypropyl o-tolyl ether	Skin Sens. 1: H317: May cause an allergic skin reaction. Harmonised Classification Test Result: Positive (OECD 406) ECHA Registration Endpoint summary

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	Resorcinol	Skin Sens. 1: H317: May cause an allergic skin reaction. Test Result: Positive (OECD 429) ECHA Registration Endpoint summary
Germ cell mutagenicity	2,3-Epoxypropyl o-tolyl ether	Mixture: Muta. 2: H341: Suspected of causing genetic defects. Muta. 2: H341: Suspected of causing genetic defects. (Dermal) Harmonised Classification. Test Result: Positive (OECD 471, Bacterial mutation test) ECHA Registration Endpoint summary
Carcinogenicity		Mixture: Based upon the available data, the classification criteria are not met.
Reproductive toxicity		Mixture: Based upon the available data, the classification criteria are not met.
STOT - single exposure	Resorcinol	Mixture: STOT SE 2; H371: May cause damage to organs. STOT SE 1; H370: Causes damage to organs: central nervous system, blood effects Maximum non-lethal dose: 200 mg/kg bw. STOT SE 2; H371: May cause damage to organs: Respiratory system ECHA registration dossier
STOT - repeated exposure		Mixture: Based upon the available data, the classification criteria are not met.
Aspiration hazard		Mixture: Based upon the available data, the classification criteria are not met.
11.2 Information on other hazards		
11.2.1 Endocrine disrupting properties		Under assessment as endocrine disrupting: Bis-[4-(2,3-epoxypropoxy)phenyl] propane; Resorcinol
11.2.2 Other information		None

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity		Mixture: Aquatic Chronic 2: H411: Toxic to aquatic life with long lasting effects. Estimated Mixture LC50 1 to ≤ 10 mg/l (Fish)
	Bis-[4-(2,3-epoxypropoxy)phenyl] propane	Aquatic Chronic 2: H411: Toxic to aquatic life with long lasting effects. Acute: LC50 (fish) mg/l (96 hour): 1.5 (OECD 203)
	Bisphenol A Diglycidyl Ether	Aquatic Chronic 2: H411: Toxic to aquatic life with long lasting effects. No data. EU classification and labelling inventory, ≥ 700 Notifiers
	2,3-Epoxypropyl o-tolyl ether	Aquatic Chronic 2: H411: Toxic to aquatic life with long lasting effects. Harmonised Classification. LC50 (fish) mg/l: 2.8 – 5.1 (OECD 203)
	Resorcinol	Aquatic Acute 1; H400: Very toxic to aquatic life. LC50 (fish) mg/l (96 hour): 26.8 Aquatic Chronic 3; H412: Harmful to aquatic life with long lasting effects. EC50 Danio rerio (zebrafish) mg/l (7 day): 54.8 ECHA registration dossier
12.2 Persistence and degradability		No data for the mixture as a whole.
	Bis-[4-(2,3-epoxypropoxy)phenyl] propane	Not readily biodegradable Water % Degradation: 5% (28 days) (OECD 301 F)
	Bisphenol A Diglycidyl Ether	No data available
	2,3-Epoxypropyl o-tolyl ether	Not readily biodegradable Water % Degradation: ~1 - ~4% (28 days) (OECD 301 B)
	Resorcinol	Readily biodegradable. Water % Degradation: 100% (14 days) (OECD 301 C)
12.3 Bioaccumulative potential		No data for the mixture as a whole.
	Bis-[4-(2,3-epoxypropoxy)phenyl] propane	The substance has low potential for bioaccumulation. Bioconcentration factor (BCF) : 31 ((Q)SAR) (Unnamed publication, 2010)
	Bisphenol A Diglycidyl Ether	No data
	2,3-Epoxypropyl o-tolyl ether	No data - Can be waived on basis of: Log Koc : ≤ 3
	Resorcinol	The substance has low potential for bioaccumulation. Bioconcentration factor (BCF) : 3.16 (EPA, 2000)
12.4 Mobility in soil		No data for the mixture as a whole.
	Bis-[4-(2,3-epoxypropoxy)phenyl] propane	The substance has moderate mobility in soil. Log Koc: 2.65 ((Q)SAR) (Unnamed publication, 2010)
	Bisphenol A Diglycidyl Ether	No data
	2,3-Epoxypropyl o-tolyl ether	The substance has moderate mobility in soil.

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		Log Koc: 2.32 (OECD 121)
	Resorcinol	The substance has high mobility in soil.
12.5	Results of PBT and vPvB assessment	Log Koc: 0.98 (Schuurmann, G et al. 2006)
12.6	Endocrine disrupting properties	Not classified as PBT or vPvB.
		This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.
12.7	Other adverse effects	None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	Waste treatment methods	This material and its container must be disposed of as hazardous waste. Dispose of wastes in an approved waste disposal facility. Waste classification according to Directive 2008/98/EC (Waste Framework Directive): HP 4 Irritant — skin irritation and eye damage HP 5 Specific Target Organ Toxicity/Aspiration Toxicity HP 11 Mutagenic HP13 Sensitising HP 14 Ecotoxic
13.2	Additional Information	Dispose of contents in accordance with local, state or national legislation.

SECTION 14: TRANSPORT INFORMATION

	ADR/RID	ADN	IMDG	IATA/ICAO
14.1	UN number or ID number	UN 3082	UN 3082	UN 3082
14.2	UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bis-[4-(2,3-epoxypropoxy)phenyl] propane; Bisphenol A Diglycidyl Ether; 2,3-Epoxypropyl o-tolyl ether)		
14.3	Transport hazard class(es)	9	9	9
14.4	Packing group	III	III	III
14.5	Environmental hazards	ENVIRONMENTALLY HAZARDOUS	ENVIRONMENTALLY HAZARDOUS	CLASSIFIED AS ENVIRONMENTALY HAZARDOUS POLLUTANT.
14.6	Special precautions for user	See Section: 2		
14.7	Maritime transport in bulk according to IMO instruments	No information available.		
14.8	Additional Information	No information available.		

SECTION 15: REGULATORY INFORMATION

15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture	
15.1.1	EU regulations	Product: Entry number:3
	Use restriction according to REACH annex XVII, no.:	
	CoRAP Substance Evaluation	
	2,3-Epoxypropyl o-tolyl ether	Substance evaluated in 2016; evaluating Member State has proposed to ask the registrants to provide further information
	Resorcinol	Substance evaluated in 2019; evaluating Member State has proposed to ask the registrants to provide further information

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Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]

E2

Directive 2010/75/EU on industrial emissions [Industrial Emissions Directive]

Restrictions of occupation:

This substance/mixture does not contain any volatile organic compounds in the sense of Directive 2010/75/EU.

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

To follow:

Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work

15.1.2 National regulations Germany

Water hazard class (WKG)

obviously hazardous to water (WKG 2) (Selbsteinstufung gemäß AwSV (Gemisch, Rechenregel).)

15.2 Chemical Safety Assessment

A REACH chemical safety assessment has not been carried out.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: New SDS Regulation 2020/878 format, all sections have been updated to include new information. Please review SDS with care.

References:

Existing Safety Data Sheet (SDS),

Harmonised Classification and Existing ECHA registration(s) for Bis-[4-(2,3-epoxypropoxy)phenyl]propane (CAS No. 1675-54-3), 2,3-Epoxypropyl o-tolyl ether (CAS No. 2210-79-9) and Resorcinol (CAS No. 108-46-3).

The classification and labelling inventory for Bisphenol A Diglycidyl Ether (CAS No. 25085-99-8).

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Skin Irrit. 2; H315	Threshold Calculation
Skin Sens. 1; H317	Threshold Calculation
Eye Dam 1; H318	Threshold Calculation
Muta. 2; H341	Threshold Calculation
STOT SE 2; H371	Threshold Calculation
Aquatic Chronic 2; H411	Summation Calculation

LEGEND

ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
DNEL	Derived no effect level
EU	European Union
EC	European Community
ECHA	European Chemicals Agency
EN	European Standard
EC50	Effect concentration; 50 %
EL50	Effective loading rate; 50 %
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LC50	Lethal concentration at which 50% of the population is killed
LD50	Lethal dose at which 50% of the population is killed
LTEL	Long term exposure limit
NOAEC	No observed adverse effect concentration

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NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Cooperation and Development
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
TWA	Time Weighted Average
STEL	Short term exposure limit
vPvB	very Persistent and very Bioaccumulative
UN	United Nations

Hazard classification / Classification code:

Acute Tox. 4; Acute toxicity Category 4
Skin Irrit. 2; Skin Irritation Category 2
Eye Dam. 1; Eye damage, category 1
Eye Irrit. 2; Eye Irritation Category 2
Skin Sens. 1; Skin Sensitisation, Category 1
Muta. 2; Germ cell mutagenicity Category 2
STOT SE 1; Specific target organ toxicity — single exposure Category 1
STOT SE 2; Specific target organ toxicity — single exposure Category 2
Aquatic Acute 1; Hazardous to the aquatic environment, acute, Category 1
Aquatic Chronic 2; Hazardous to the aquatic environment, Chronic , Category 2
Aquatic Chronic 3; Hazardous to the aquatic environment, Chronic , Category 3

Hazard Statement(s)

H302: Harmful if swallowed.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
H317: May cause an allergic skin reaction.
H341: Suspected of causing genetic defects.
H370: Causes damage to organs.
H371: May cause damage to organs.
H400: Very toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effects.
H412: Harmful to aquatic life with long lasting effects.

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

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