

Australian statement of hazardous nature : Classified as hazardous according to criteria of Safe Work Australia

Section 1 - Identification

Product Name M-BOND AE Resin

Product Code	VMMGAK2AE10/VMMMBONDAE10 (kit)
Address	ThermoFisher Scientific Australia Pty Ltd 5 Caribbean Drive, Scoresby VICTORIA 3179, Australia
Emergency Tel.	CHEMTREC® 03 9757 4559 or +613 9757 4559
Telephone / Fax Numbers	Tel: 1300 735 292 Fax: 1800 067 639
E-mail address	ANZinfo@thermofisher.com

Recommended Use Laboratory chemicals.

Uses advised against This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list. This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction. This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern.

Section 2 - Hazard(s) Identification

Classification under Safe Work Australia

Classified as hazardous according to criteria of Safe Work Australia

Physical hazards

No hazards identified

Health hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2

Environmental hazards

Chronic aquatic toxicity	Category 3
--------------------------	------------

Label Elements



Health Hazard



Exclamation Mark

Signal Word**Warning****Hazard Statements**

H315 - Causes skin irritation
 H317 - May cause an allergic skin reaction
 H319 - Causes serious eye irritation
 H341 - Suspected of causing genetic defects if inhaled
 H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

P201 - Obtain special instructions before use
 P202 - Do not handle until all safety precautions have been read and understood
 P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P272 - Contaminated work clothing should not be allowed out of the workplace
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P308 + P313 - IF exposed or concerned: Get medical advice/attention
 P362 + P364 - Take off contaminated clothing and wash it before reuse
 P403 - Store in a well-ventilated place
 P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

This product does not contain any known or suspected endocrine disruptors

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
Bisphenol A diglycidyl ether	1675-54-3	>70
Oxirane, 2,2'-4-butyldenebisphenyleneoxymethylene (DGEBA)	25085-99-8	15-25
Resorcinol	108-46-3	<5
Oxirane, [(2-methylphenoxy)methyl]-	2210-79-9	<5

Section 4 - First Aid Measures

Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

General Advice	If symptoms persist, call a physician.
Self-Protection of the First Aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.
First Aid Facilities	Eyewash, safety shower and washroom.
Most important symptoms and effects	None reasonably foreseeable. May cause allergic skin reaction. . Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing
Notes to Physician	Treat symptomatically.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment and precautions for fire fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

Environmental Precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Clean-up methods - small spillage

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Clean-up methods - large spillage

Typically only supplied in small quantities as packaged goods.

If extremely toxic or used in larger quantities ensure a spillage action plan is in place. Evacuate area. Control the source and/or contain the spill if safe and able to do so. Use temporary diking, sand bags, dry sand, earth or proprietary booms/absorbent pads if available. Obtain advice on containment, neutralisation and clean-up from local emergency responders.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits

AUS - Exposure Standards for Atmospheric Contaminants in the Occupational Environment - Guidance Note on the Interpretation of Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:3008(1995)]

Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003(1995)] updated in August, 2005. Safe Work Australia

ACGIH - Threshold Limit Values - Ceiling (TLV-C) guidelines by the American Conference of Governmental Industrial Hygienists (ACGIH) for controlling worker exposure to airborne chemical concentrations in the workplace.

UK - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020.

DE - MAK and BAT values of Hazardous Chemical Compounds in the Work Area. Published by German Research Foundation on July 1, 2011

NZ - Workplace Exposure Standards and Biological Exposure Indices (6th edition). New Zealand Department of Labor

Component	Australia	New Zealand WEL	ACGIH TLV	The United Kingdom	Germany
Resorcinol	STEL: 20 ppm STEL: 90 mg/m ³ TWA: 10 ppm TWA: 45 mg/m ³	TWA: 10 ppm TWA: 45 mg/m ³ STEL: 20 ppm STEL: 90 mg/m ³	TWA: 10 ppm STEL: 20 ppm	STEL: 20 ppm 15 min STEL: 92 mg/m ³ 15 min TWA: 10 ppm 8 hr TWA: 46 mg/m ³ 8 hr Skin	TWA: 4 ppm (8 Stunden). AGW - exposure factor 1 TWA: 20 mg/m ³ (8 Stunden). AGW - exposure factor 1 Haut

Biological limit values

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

Exposure Controls**Engineering Measures**

Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment**Eye Protection**

Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection

Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Nitrile rubber	See manufacturers recommendations	-	AS/NZS 2161	(minimum requirement)

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection

Long sleeved clothing

Respiratory Protection

Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use

Recommended Filter type:
Recommended half mask:-

and maintenance of respiratory protective devices
 Particulates filter conforming to EN 143 (or AUS/NZ equivalent)
 Particle filtering: EN149:2001 (or AUS/NZ equivalent)
 When RPE is used a face piece Fit Test should be conducted

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance	Clear, amber colored	
Physical State	Liquid	
Odor	No information available	
Odor Threshold	No data available	
pH	Not applicable	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	Not applicable	
Flash Point	Not applicable	Method - No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	No data available	
Bulk Density	Not applicable	Liquid
Water Solubility	practically insoluble	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
Resorcinol	0.8	
Oxirane, [(2-methylphenoxy)methyl]-	2.5	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Other information

Section 10 - Stability and Reactivity

Reactivity	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products, Excess heat.
Incompatible Materials	None known.
Hazardous Decomposition Products	None under normal use conditions.
Hazardous Polymerization	Hazardous polymerization does not occur.

Section 11 - Toxicological Information

Information on Toxicological Effects

Product Information

(a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Bisphenol A diglycidyl ether	LD50 = 11300 µL/kg (Rat)	LD50 = 20000 mg/kg (Rabbit)	
Resorcinol	510 mg/kg (Rat)	2830 mg/kg (Rabbit)	LC50 > 7.8 mg/L (rat) 8 h
Oxirane, [(2-methylphenoxy)methyl]-	LD50 = 4 g/kg (Rat)	LD50 > 2200 mg/kg (Rabbit)	LC50 > 6.1 ppm (Rat) 4 h

(b) skin corrosion/irritation;

Category 2

(c) serious eye damage/irritation;

Category 2

(d) respiratory or skin sensitization;

Respiratory

No data available

Skin

Category 1

Sensitization

No information available

(e) germ cell mutagenicity;

Category 2

(f) carcinogenicity;

No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

(g) reproductive toxicity;

No data available

(h) STOT-single exposure;

No data available

(i) STOT-repeated exposure;

No data available

Target Organs

No information available.

(j) aspiration hazard;

No data available

Symptoms / effects, both acute and delayed

Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Section 12 - Ecological Information

Ecotoxicity effects

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment. Contains a substance which is: Toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Resorcinol	LC50: = 53.4 mg/L, 96h (Pimephales promelas) LC50: 36 - 100 mg/L, 96h static (Pimephales promelas) LC50: = 100 mg/L, 96h flow-through (Pimephales promelas) LC50: > 100 mg/L, 96h flow-through (Oncorhynchus mykiss)	LC50 = 1.00 mg/L, 48h (Daphnia magna)	EC50 = 97 mg/l (OECD TG 201)	EC50 = 265 mg/L 30 min EC50 = 375 mg/L 5 min EC50 = 543 mg/L 48 h
Oxirane, [(2-methylphenoxy)methyl]-	LC50: 2.8 - 5.1 mg/L, 96h static (Oncorhynchus mykiss)			

Persistence and Degradability**Persistence**

Insoluble in water.

Component	Degradability
Resorcinol 108-46-3 (<5)	97% (4 days), OECD 302B

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential

May have some potential to bioaccumulate

Component	log Pow	Bioconcentration factor (BCF)
Resorcinol	0.8	2.4 dimensionless
Oxirane, [(2-methylphenoxy)methyl]-	2.5	No data available

Mobility

Spillage unlikely to penetrate soil. Is not likely mobile in the environment due its low water solubility

Endocrine Disruptor Information

Component	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
Bisphenol A diglycidyl ether	Group II Chemical		
Oxirane, 2,2'-4-butylidenebisphenyleneoxymethylene (DGEBA)	Group III Chemical		
Resorcinol	Group I Chemical	High Exposure Concern	

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste from Residues/Unused Products

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.

Other Information

Chemical wastes should be disposed through a licensed commercial waste collection service. Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

Section 14 - Transport Information

IMDG/IMO**UN-No**

UN3082

Proper Shipping Name

Environmentally hazardous substances, liquid, n.o.s.

Technical Shipping Name

Epoxy Resin

Hazard Class 9
Packing Group III

ADG

UN-No UN3082
Proper Shipping Name Environmentally hazardous substances, liquid, n.o.s.
Technical Shipping Name Epoxy Resin
Hazard Class 9
Packing Group III

Component	Hazchem Code
Resorcinol 108-46-3 (<5)	2Z

IATA

UN-No UN3082
Proper Shipping Name Environmentally hazardous substances, liquid, n.o.s.
Technical Shipping Name Epoxy Resin
Hazard Class 9
Packing Group III

Environmental hazards No hazards identified
Special Precautions No special precautions required
Additional information None known

Section 15 - Regulatory Information

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

National Regulations Australia

See section 8 for national exposure control parameters.

Standard for the Uniform Scheduling of Medicines and Poisons

No poison schedule number allocated.

Component	Standard for the Uniform Scheduling of Medicines and Poisons
Resorcinol - 108-46-3	Schedule 6 listed - except: a) in preparations for human therapeutic use, or b) in oxidative hair dye preparations containing $\leq 1.25\%$ of Resorcinol after mixing for use when the immediate container and primary pack are labelled with the following statements: KEEP OUT OF REACH OF CHILDREN, and WARNING - This product contains ingredients which may cause skin sensitisation to certain individuals. A preliminary test according to the accompanying directions should be made before use. This product must not be used for dyeing eyelashes or eyebrows, to do so may be injurious to the eye. written in letters ≥ 1.5 mm in height, or c) in oxidative eyelash and eyebrow dye preparations containing $\leq 1.25\%$ of Resorcinol after mixing for use when the immediate container and primary pack are labelled with the following statements: KEEP OUT OF REACH OF CHILDREN, and WARNING - This product contains ingredients which may cause skin sensitisation to certain individuals. A preliminary test according to the accompanying directions should be made before use. written in letters ≥ 1.5 mm in height, or d) in hair lotions/shampoo products containing $\leq 0.5\%$ of Resorcinol when the immediate container and primary pack are labelled with the following statement: WARNING - This product contains ingredients which may cause skin sensitisation to certain individuals. written in letters ≥ 1.5 mm in height

Australian Industrial Chemicals Introduction Scheme (AICIS)

Component	Australian Industrial Chemicals Introduction	Additional information
-----------	--	------------------------

	Scheme (AICIS)	
Bisphenol A diglycidyl ether - 1675-54-3	Present	-
Oxirane, 2,2'-4-butyldienebisphenyleneoxymethylene (DGEBA) - 25085-99-8	Present	-
Resorcinol - 108-46-3	Present	-
Oxirane, [(2-methylphenoxy)methyl]- - 2210-79-9	Present	-

Australian - Illicit Drug Precursors/Reagents Substance List

This product does not contain any substance(s) on the Illicit Drug Precursors/Reagents list.

Chemicals of Security Concern

This product does not contain any substance(s) listed on the voluntary National Code of Practice for Chemicals of Security Concern

National pollutant inventory Not applicable

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licensing requirements when they apply.

This product does not contain any substance(s) subject to Prohibition, Authorization or Restriction.

International Inventories

Component	AICS	NZIoC	EINECS	ELINCS	TSCA	DSL	NDSL	PICCS	ENCS	ISHL	IECSC	KECL
Bisphenol A diglycidyl ether	X	X	216-823-5	-	X	X	-	X	X	X	X	KE-03162
Oxirane, 2,2'-4-butyldienebisphenyleneoxymethylene (DGEBA)	X	X	-	-	X	X	-	X	-		X	KE-24083
Resorcinol	X	X	203-585-2	-	X	X	-	X	X	X	X	KE-02557
Oxirane, [(2-methylphenoxy)methyl]-	X	X	218-645-3	-	X	X	-	X	X	X	X	KE-24799

Legend: X - Listed. '-' - Not Listed. TP - Indicates a substance that is the subject of a proposed TSCA Section 4 test rule. XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)). **KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

Basel convention on the control of transboundary movements of hazardous wastes and their disposal

Take note that wastes may be subject to export, import, or transit controls pursuant to the Basel convention and/or local regulations implementing the Basel convention.

Component	Basel Convention (Hazardous Waste)	Australian Hazardous Waste Act - Categories of Wastes to Be Controlled
Resorcinol - 108-46-3	Annex I - Y39	Y39

Component	CAS No	OECD HPV	Restriction of Hazardous Substances (RoHS)	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Bisphenol A diglycidyl ether	1675-54-3	Listed	Not applicable	Not applicable	Not applicable
Oxirane, 2,2'-4-butyldienebisphenylene oxymethylene (DGEBA)	25085-99-8	Not applicable	Not applicable	Not applicable	Not applicable
Resorcinol	108-46-3	Listed	Not applicable	Not applicable	Not applicable
Oxirane, [(2-methylphenoxy)methyl]-	2210-79-9	Not applicable	Not applicable	Not applicable	Not applicable

Authorisation/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Bisphenol A diglycidyl ether	-	Use restricted. See entry 75. (see link for restriction details)	-
Resorcinol	-	Use restricted. See entry 75. (see link for restriction details)	-
Oxirane, [(2-methylphenoxy)methyl]-	-	Use restricted. See entry 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

Section 16 - Other Information

Legend

AICS - Australian Inventory of Chemical Substances	NZIoC - New Zealand Inventory of Chemicals
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory	EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List	ENCS - Japanese Existing and New Chemical Substances
IECSC - Chinese Inventory of Existing Chemical Substances	KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances	CAS - Chemical Abstracts Service
TWA - Time Weighted Average	ACGIH - American Conference of Governmental Industrial Hygienists
IARC - International Agency for Research on Cancer	Predicted No Effect Concentration (PNEC)
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association	IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
MARPOL - International Convention for the Prevention of Pollution from Ships	ADG - Australian Code for the Transport of Dangerous Goods by Road and Rail
NZS 5433:2020 - Transport of Dangerous Goods on Land	OECD - Organisation for Economic Co-operation and Development
LD50 - Lethal Dose 50%	LC50 - Lethal Concentration 50%
EC50 - Effective Concentration 50%	ATE - Acute Toxicity Estimate
WEL - Workplace Exposure Limit	RPE - Respiratory Protective Equipment
DNEL - Derived No Effect Level	NOEC - No Observed Effect Concentration
POW - Partition coefficient Octanol:Water	BCF - Bioconcentration factor
vPvB - very Persistent, very Bioaccumulative	PBT - Persistent, Bioaccumulative, Toxic
VOC - (Volatile Organic Compound)	

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards	On basis of test data
Health Hazards	Calculation method

Environmental hazards

Calculation method

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Revision Date

12-Mar-2025

Revision Summary

Update to GHS format.

This Safety Data Sheet (SDS) is prepared in accordance to and complies with the requirements of Safe Work Australia - Work Health and Safety Regulations (WHS Regulations).

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