

SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200, WHMIS 2022 and Safe Work Australia

Revision date: 16 September 2024 **Date of previous issue:** 29 December 2020 **SDS No.** 340B-9

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

1.1. Product identifier

ARC MX2 (Part B)

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

Relevant identified uses: ARC Polymer Composite. Repair damage caused by impact, abrasion, erosion or corrosion; rebuild worn areas; fill holes and cracks; provide abrasion resistant surfaces.

Uses advised against: No information available

Reason why uses advised against: Not applicable

1.3. Details of the supplier of the safety data sheet

Company:

A.W. CHESTERTON COMPANY
860 Salem Street
Groveland, MA 01834-1507, USA
Tel. +1 978-469-6446
(Mon. - Fri. 8:30 - 5:00 PM EST)
SDS requests: www.chesterton.com
E-mail (SDS questions): ProductSDSs@chesterton.com
E-mail: customer.service@chesterton.com

Supplier:

Canada: A.W. Chesterton Company Ltd., 889 Fraser Drive,
Unit 105, Burlington, Ontario L7L 4X8 – Tel. 905-335-5055

1.4. Emergency telephone number

24 hours per day, 7 days per week
Call Infotrac: 1-800-535-5053
Outside N. America: +1 352-323-3500 (collect)
NSW Poisons Information Centre (Australia): 13 11 26

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Classification according to 29 CFR 1910.1200 / WHMIS 2022 / Safe Work Australia / GHS

Skin corrosion, Category 1B, H314
Serious eye damage, Category 1, H318
Skin sensitization, Category 1, H317

2.1.2. Additional information

For full text of H-statements: see SECTIONS 2.2 and 16.

2.2. Label elements

Labeling according to 29 CFR 1910.1200 / WHMIS 2022 / Safe Work Australia / GHS

Hazard pictograms:



Signal word:

Danger

Hazard statements:

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.

Precautionary statements:	P261	Avoid breathing vapours.
	P270	Do not eat, drink or smoke when using this product.
	P280	Wear protective gloves/clothing and eye/face protection.
	P303/361/353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
	P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P301/330/331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
	P310	Immediately call a POISON CENTER or doctor.
	P333/313	If skin irritation or rash occurs: Get medical advice/attention.
	P363	Wash contaminated clothing before reuse.
	P405	Store locked up.
	P501	Dispose of contents/container to an approved waste disposal plant.

Supplemental information: None

2.3. Other hazards

The safety and health hazards are detailed separately for Part A and Part B. The final cured material is considered nonhazardous. Upon machining, refer to the precautions in the safety data sheets for Part A and Part B.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous Ingredients ¹	% Wt.	CAS No.	GHS Classification
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer	10-15	68411-71-2	Acute Tox. 4, H302
Diethylenetriamine*	3-7	111-40-0	Acute Tox. 2, H330 Acute Tox. 4, H312, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT SE 3, H335
Benzyl alcohol	1-5	100-51-6	Acute Tox. 4, H332, H302 Eye Irrit. 2, H302
N-(3-(trimethoxysilyl)propyl)ethylenediamine	0.1-0.9	1760-24-3	Acute Tox. 4, H332 Eye Dam. 1, H318 Skin Sens. 1, H317

Other ingredients:

Aluminum oxide	60-70	1344-28-1	Not classified **
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Amorphous silica	1-5	7631-86-9	Not classified **
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For full text of H-statements: see SECTION 16.

*This component is toxic by inhalation if sprayed or if aerosol/mist is created. The mixture is neither present in aerosol form nor may aerosols occur.

**Substance with a workplace exposure limit.

¹ Classified according to: 29 CFR 1910.1200, 1915, 1916, 1917, Mass. Right-to-Know Law (ch. 40, M.G.L..O. 111F), WHMIS 2022, Safe Work Australia, GHS

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: Remove to fresh air. If not breathing, administer artificial respiration. Contact physician.

Skin contact: Flood area with water while removing contaminated clothing. Wash clothing before reuse. Consult physician.

Eye contact: Flush eyes for at least 30 minutes with large amounts of water. Contact physician if irritation persists.

Ingestion: Do not induce vomiting without medical advice. If person is conscious, rinse mouth with water and give small quantities of water to drink. Contact physician immediately.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. Avoid contact with the product while providing aid to the victim. See section 8.2.2 for recommendations on personal protective equipment.

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

Direct contact causes eye and skin irritation; possibly burns. High vapor concentrations can cause severe eye and respiratory tract irritation, coughing and labored breathing. May cause skin sensitization as evidenced by rashes or hives.

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

Treat symptoms.

SECTION 5: FIRE-FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Carbon dioxide, dry chemical, foam, water fog

Unsuitable extinguishing media: No data available

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: May generate: ammonia gas, toxic nitrogen oxide gases. Incomplete combustion may form carbon monoxide.

Other hazards: Do not allow runoff from firefighting to enter drains or water courses.

5.3. Advice for firefighters

Cool exposed containers with water. Recommend Firefighters wear self-contained breathing apparatus.

Australian HAZCHEM Emergency Action Code: 2 Z

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation. Avoid skin contact. Utilize exposure controls and personal protection as specified in Section 8.

6.2. Environmental Precautions

Keep out of sewers, streams and waterways.

6.3. Methods and material for containment and cleaning up

Evacuate area. Scoop up and transfer to a suitable container for disposal.

6.4. Reference to other sections

Refer to section 13 for disposal advice.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Do not eat, drink or smoke when using this product. Remove contaminated clothing immediately. Wash clothing before reuse. Contaminated work clothing must not be allowed out of the workplace. Contaminated leather including shoes cannot be decontaminated and should be discarded. Utilize exposure controls and personal protection as specified in Section 8. Do not contaminate with sodium nitrite or other nitrosating agents, which could cause the formation of cancer-causing nitrosamine.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry area.

7.3. Specific end use(s)

No special precautions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Occupational exposure limit values**

Ingredients	OSHA PEL ¹		ACGIH TLV ²		AUSTRALIA ES ³	
	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer	N/A	N/A	N/A	N/A	N/A	N/A
Diethylenetriamine	1 (Table Z-1-A)	4	1 (skin)	4.2	1 (skin)	4.2
Benzyl alcohol	N/A	N/A	N/A	N/A	N/A	N/A
N-(3-(trimethoxysilyl)propyl)ethylenediamine	N/A	N/A	N/A	N/A	N/A	N/A
Aluminum oxide	(total) (resp.)	15 5	(resp.)	1	(insp.)	10
Amorphous silica	20 mppcf	6	(total) (resp.)	10* 3	N/A	2

* Particles Not Otherwise Specified (PNOS)

¹ United States Occupational Health & Safety Administration permissible exposure limits

² American Conference of Governmental Industrial Hygienists threshold limit values

³ Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants

Biological limit values

No biological exposure limits noted for the ingredient(s).

8.2. Exposure controls**8.2.1. Engineering measures**

Provide sufficient ventilation to keep the vapor concentrations below the exposure limit. If it is necessary to alter the final cured product such that dust may be generated, use adequate dust extraction or damp down.

8.2.2. Individual protection measures

Respiratory protection: Not normally needed. If exposure limits are exceeded, use an approved organic vapor respirator (e.g., EN filter type A-P2).

Protective gloves: Chemical resistant gloves (e.g., natural rubber, neoprene or PVC).

Diethylenetriamine:

Contact type	Glove material	Layer thickness	Breakthrough time *
Full	neoprene	0.65 mm	> 480 min.
Splash	natural rubber	0.6 mm	> 60 min.

*Determined according to EN374 standard.

Eye and face protection: Safety goggles.

Other: Impervious clothing as necessary to prevent skin contact.

8.2.3. Environmental exposure controls

Refer to sections 6 and 12.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Physical state	paste	pH	not applicable
Colour	white	Kinematic viscosity	approx. 21,000 mm ² /s (calculated)
Odour	strong ammonia odor	Solubility in water	very slight
Odour threshold	not determined	Partition coefficient n-octanol/water (log value)	not applicable
Boiling point or range	not determined	Vapour pressure @ 20°C	not determined
Melting point/freezing point	not determined	Density and/or relative density	2.37 kg/l
% Volatile (by volume)	None	Weight per volume	19.69 lbs/gal.
Flammability	not determined	Vapour density (air=1)	> 1
Lower/upper flammability or explosion limits	not determined	Rate of evaporation (ether=1)	< 1
Flash point	> 200°C (> 400°F)	% Aromatics by weight	None
Method	PM Closed Cup	Particle characteristics	not applicable
Autoignition temperature	not determined	Explosive properties	not determined
Decomposition temperature	not determined	Oxidising properties	not determined

9.2. Other information

Dynamic viscosity: approx. 50.000 cps

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity**

Refer to sections 10.3 and 10.5.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

No dangerous reactions known under conditions of normal use.

10.4. Conditions to avoid

Open flames and high temperatures.

10.5. Incompatible materials

Strong acids and strong oxidizers like liquid Chlorine and concentrated Oxygen, reactive metals.

10.6. Hazardous decomposition productsNitric acid, NO_x, Ammonia, Carbon Monoxide, Carbon Dioxide, nitrosamines and other toxic fumes.**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects**

Primary route of exposure under normal use: Inhalation, skin and eye contact. Personnel with pre-existing lung disease may be aggravated by exposure.

Acute toxicity -**Oral:**

May be harmful if swallowed. ATE-mix: 3,232.4 mg/kg.

Substance	Test	Result
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer	LD50, rat	200-500 mg/kg
Diethylenetriamine	LD50, rat	1,553 mg/kg
Benzyl alcohol	LD50, rat	1,620 mg/kg
N-(3-(trimethoxysilyl)propyl)ethylenediamine	LD50, rat	2,295 mg/kg
Aluminum oxide	LD50, rat	> 5,000 mg/kg
Amorphous silica	LD50, rat	> 5,000 mg/kg

Dermal: ATE-mix: 16,650 mg/kg.

Substance	Test	Result
Diethylenetriamine	LD50, rabbit	1,090 mg/kg
Benzyl alcohol	LD50, rabbit	2,000 mg/kg
N-(3-(trimethoxysilyl)propyl)ethylenediamine	LD50, rabbit	2,009 mg/kg
Amorphous silica	LD50, rat	> 2,000 mg/kg

Inhalation: ATE-mix: 679 mg/l (vapour). High vapor concentrations can cause severe eye and respiratory tract irritation, coughing and labored breathing.

Substance	Test	Result
Benzyl alcohol	LC50, rat, 4 h	11 mg/l (cATpE, vapour)
Diethylenetriamine	LC50, rat, 4 h	No mortality at vapor saturation level

Skin corrosion/irritation: Causes burns.

Substance	Test	Result
Diethylenetriamine	Skin irritation, rabbit	Corrosive

Serious eye damage/irritation: Causes serious eye damage.

Substance	Test	Result
Diethylenetriamine	Eye irritation	Corrosive

Respiratory or skin sensitisation: Prolonged or repeated contact may cause asthma, skin sensitization and other allergic responses.

Substance	Test	Result
Diethylenetriamine	Skin sensitization, guinea pig	Sensitizing

Germ cell mutagenicity: Benzyl alcohol, Diethylenetriamine: based on available data, the classification criteria are not met.

Carcinogenicity: This product contains no carcinogens as listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or Regulation (EC) No 1272/2008.

Reproductive toxicity: Diethylenetriamine: not expected to cause toxicity.

STOT – single exposure: Diethylenetriamine: may cause respiratory irritation.

STOT – repeated exposure: Diethylenetriamine, Benzyl alcohol: based on available data, the classification criteria are not met.

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

Other information: None known

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological data have not been determined specifically for this product. The information given below is based on a knowledge of the components and the ecotoxicology of similar substances.

12.1. Toxicity

N-(3-(trimethoxysilyl)propyl)ethylenediamine: 48 h EC50 (for daphnia) = 81 mg/l; 72 h ErC50 (for algae) = 8.8 mg/l (OECD 201).

12.2. Persistence and degradability

Diethylenetriamine: expected to be resistant to biodegradation. Benzyl alcohol: expected to biodegrade relatively quickly. N-(3-(trimethoxysilyl)propyl)ethylenediamine: biodegradation = 39% (OECD 301A), not readily biodegradable. Unreacted components (Parts A and B), improperly released to the environment, can cause ground and water pollution. Aluminum oxide, Amorphous silica: inorganic substances.

12.3. Bioaccumulative potential

Diethylenetriamine, Benzyl alcohol: bioconcentration in aquatic organisms is not expected to be significant (log Kow: -2.13). N-(3-(trimethoxysilyl)propyl)ethylenediamine: Octanol/water partition coefficient (log Pow) = -0.3.

12.4. Mobility in soil

Paste. Solubility in water: very slight. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). Diethylenetriamine, Benzyl alcohol: expected to be highly mobile in soil.

12.5. Endocrine disrupting properties

None known

12.6. Other adverse effects

None known

SECTION 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Combine resin and curative. The final cured material is considered nonhazardous. Landfill sealed containers with a properly licensed facility. Unreacted components are a special waste. Check local, state and national/federal regulations and comply with the most stringent requirement.

SECTION 14: TRANSPORT INFORMATION**14.1. UN number or ID number**

ADG/ADR/RID/ADN/IMDG/ICAO: UN1760
TDG: UN1760
US DOT: UN1760

14.2. UN proper shipping name

ADG/ADR/RID/ADN/IMDG/ICAO: CORROSIVE LIQUIDS, N.O.S. (CONTAINS DIETHYLENETRIAMINE)
TDG: CORROSIVE LIQUIDS, N.O.S. (CONTAINS DIETHYLENETRIAMINE)
US DOT: CORROSIVE LIQUIDS, N.O.S. (CONTAINS DIETHYLENETRIAMINE)

14.3. Transport hazard class(es)

ADG/ADR/RID/ADN/IMDG/ICAO: 8
TDG: 8
US DOT: 8

14.4. Packing group

ADG/ADR/RID/ADN/IMDG/ICAO: III
TDG: III
US DOT: III

14.5. Environmental hazards

NO ENVIRONMENTAL HAZARDS

14.6. Special precautions for user

NO SPECIAL PRECAUTIONS FOR USER

14.7. Maritime transport in bulk according to IMO instruments

NOT APPLICABLE

14.8. Other information

US DOT: ERG NO. 154

MAY BE SHIPPED AS LIMITED QUANTITIES IN PACKAGING HAVING A RATED CAPACITY GROSS WEIGHT OF 66 LB. OR LESS AND IN INNER PACKAGES NOT OVER 5 LITERS (49 CFR 173.154 (B),(2))

IMDG: EMS F-A, S-B, IMDG SEGREGATION GROUP 18-ALKALIS

ADR : CLASSIFICATION CODE C9, TUNNEL RESTRICTION CODE (E)

ADG HAZCHEM CODE : 2X **HIN:** 88/80

SECTION 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. National regulations****US EPA SARA TITLE III****312 Hazards:**

Chemicals subject to reporting requirements of Section 313 of EPCRA and of 40 CFR 372:

Skin corrosion
 Serious eye damage
 Acute toxicity
 Skin sensitization

None

TSCA: All chemical components are listed or exempted.

Other national regulations: None

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms: ADG: Australian Dangerous Goods Code
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
 ATE: Acute Toxicity Estimate
 BCF: Bioconcentration Factor
 cATpE: Converted Acute Toxicity point Estimate
 ES: Exposure Standard
 GHS: Globally Harmonized System
 ICAO: International Civil Aviation Organization
 IMDG: International Maritime Dangerous Goods
 LC50: Lethal Concentration to 50 % of a test population
 LD50: Lethal Dose to 50% of a test population
 LOEL: Lowest Observed Effect Level
 N/A: Not Applicable
 NA: Not Available
 NOEC: No Observed Effect Concentration
 NOEL: No Observed Effect Level
 OECD: Organization for Economic Co-operation and Development
 (Q)SAR: Quantitative Structure-Activity Relationship
 REL: Recommended Exposure Limit
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
 SDS: Safety Data Sheet
 STEL: Short Term Exposure Limit
 STOT RE: Specific Target Organ Toxicity, Repeated Exposure
 STOT SE: Specific Target Organ Toxicity, Single Exposure
 TDG: Transportation of Dangerous Goods (Canada)
 TWA: Time Weighted Average
 US DOT: United States Department of Transportation
 WHMIS: Workplace Hazardous Materials Information System
 Other abbreviations and acronyms can be looked up at www.wikipedia.org.

Key literature references and sources for data: Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST)
 Chemical Classification and Information Database (CCID)
 European Chemicals Agency (ECHA) - Information on Chemicals
 Hazardous Chemical Information System (HCIS)
 National Institute of Technology and Evaluation (NITE)
 U.S. National Library of Medicine Toxicology Data Network (TOXNET)

Procedure used to derive the classification for mixtures according to GHS:

Classification	Classification procedure
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Calculation method

Relevant H-statements: H302: Harmful if swallowed.
 H312: Harmful in contact with skin.
 H314: Causes severe skin burns and eye damage.
 H317: May cause an allergic skin reaction.
 H318: Causes serious eye damage.
 H330: Fatal if inhaled.
 H332: Harmful if inhaled.
 H335: May cause respiratory irritation.

Hazard pictogram names: Corrosion, exclamation mark

Further information: None

Date of last revision: 16 September 2024

Changes to the SDS in this revision: Sections 1.2, 1.3, 2.1, 2.2, 3, 4.1, 4.2, 5.2, 7.1, 8.1, 9.1, 9.2, 10.5, 10.6, 11, 12.2, 12.5, 13, 15.1, 16.

This information is based solely on data provided by suppliers of the materials used, not on the mixture itself. No warranty is expressed or implied regarding the suitability of the product for the user's particular purpose. The user must make their own determination as to suitability.