

**SAFETY DATA SHEET**

in accordance with 29 CFR 1910.1200, WHMIS 2015 and Safe Work Australia

**Revision date:** 13 September 2021      **Date of previous issue:** 27 April 2021      **SDS No.** 237B-19

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

**1.1. Product identifier**

ARC BX2 (Part B)

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

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

**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 Fax: +1 978-469-6785  
(Mon. - Fri. 8:30 - 5:00 PM EST)  
SDS requests: [www.chesterton.com](http://www.chesterton.com)  
E-mail (SDS questions): [ProductSDSs@chesterton.com](mailto:ProductSDSs@chesterton.com)  
E-mail: [customer.service@chesterton.com](mailto: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 2015 / Safe Work Australia / GHS**

Acute toxicity, Category 4, H302  
Skin corrosion, Category 1B, H314  
Serious eye damage, Category 1, H318  
Skin sensitization, Category 1, H317

**2.1.2. Australian statement of hazardous nature**

Hazardous according to criteria of Safe Work Australia.

**2.1.3. 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 2015 / Safe Work Australia / GHS**

**Hazard pictograms:**



**Signal word:**

Danger

**Hazard statements:**

H314	Causes severe skin burns and eye damage.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.

<b>Precautionary statements:</b>	P264	Wash hands thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P272	Contaminated work clothing must not be allowed out of the workplace.
	P280	Wear protective gloves, protective 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.
	P304/340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	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 <sup>1</sup>	% Wt.	CAS No.
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer	10 - 15	68411-71-2
Diethylenetriamine*	5 - 7	111-40-0
Benzyl alcohol	1 - 5	100-51-6
Other ingredients:		
Silicon carbide	10 - 15	409-21-2

\*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.

<sup>1</sup> Classified according to: • 29 CFR 1910.1200, 1915, 1916, 1917, Mass. Right-to-Know Law (ch. 40, M.G.L..O. 111F)  
• WHMIS 2015, 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. Consult physician.

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

**Ingestion:** Do not induce vomiting. If conscious, dilute stomach contents with large quantities of milk or water. 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

Corrosive to eyes, skin and mucous membranes, which can result in strong irritation, burning and tissue damage. High vapor concentrations can cause severe eye and respiratory tract irritation, coughing and labored breathing. Prolonged or repeated contact may cause asthma, skin sensitization and other allergic responses.

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

Treat symptoms. Application of corticosteroid cream has been effective in treating skin irritation.

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

**Suitable extinguishing media:** Carbon dioxide, dry chemical or foam

**Unsuitable extinguishing media:** No data available

**5.2. Special hazards arising from the substance or mixture**

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

**5.3. Advice for firefighters**

Cool exposed containers with water. Recommend Firefighters wear self-contained breathing apparatus and complete fire service protective equipment.

**Australian HAZCHEM Emergency Action Code:** 3 X

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

Evacuate area. Provide adequate ventilation. 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**

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**

Utilize exposure controls and personal protection as specified in Section 8. Wash skin thoroughly after handling. Remove contaminated clothing immediately. Wash clothing before reuse. Contaminated leather including shoes cannot be decontaminated and should be discarded. Contaminated work clothing must not be allowed out of the workplace. 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 <sup>1</sup>		ACGIH TLV <sup>2</sup>		AUSTRALIA ES <sup>3</sup>	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
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)	N/A	1 (skin)	4.2
Benzyl alcohol	N/A	N/A	N/A	N/A	N/A	N/A
Silicon carbide	N/A	15 (total) 5 (resp.)	N/A	10 (inhal.) 3 (resp.)	N/A	10

<sup>1</sup> United States Occupational Health & Safety Administration permissible exposure limits

<sup>2</sup> American Conference of Governmental Industrial Hygienists threshold limit values

<sup>3</sup> 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 readily accessible eye wash stations and safety showers. Provide sufficient ventilation to keep the concentrations below the exposure limits. 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 a half or full-face respirator with combined dust/organic vapour filter (e.g., EN filter type A-P2).

**Protective gloves:** Chemical resistant gloves (e.g., butyl rubber, nitrile)

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**

<b>Physical state</b>	gritty paste	<b>Odour</b>	amine odor
<b>Colour</b>	red	<b>Odour threshold</b>	not determined
<b>Initial boiling point</b>	not determined	<b>Vapour pressure @ 20°C</b>	not determined
<b>Melting point</b>	not applicable	<b>% Aromatics by weight</b>	none
<b>% Volatile (by volume)</b>	none	<b>pH</b>	not applicable
<b>Flash point</b>	> 99°C (> 210°F)	<b>Relative density</b>	2.09 kg/l
<b>Method</b>	PM Closed Cup	<b>Weight per volume</b>	17.4 lbs/gal.
<b>Viscosity</b>	50,000 cps @ 25°C	<b>Coefficient (water/oil)</b>	< 1
<b>Autoignition temperature</b>	not applicable	<b>Vapour density (air=1)</b>	> 1
<b>Decomposition temperature</b>	not determined	<b>Rate of evaporation (ether=1)</b>	< 1
<b>Upper/lower flammability or explosive limits</b>	not determined	<b>Solubility in water</b>	insoluble
<b>Flammability (solid, gas)</b>	not applicable	<b>Oxidising properties</b>	not determined
<b>Explosive properties</b>	not determined		

**9.2. Other information**

None

**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 oxidizers like liquid Chlorine and concentrated Oxygen.

**10.6. Hazardous decomposition products**

Nitric acid, NOx, 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.**Acute toxicity -****Oral:**

Harmful if swallowed. ATE-mix: 1,787.6 mg/kg.

Substance	Test	Result
1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer	LD50, rat	300-500 mg/kg
Diethylenetriamine	LD50, rat	1,080 mg/kg
Benzyl alcohol	LD50, rat	1,230 mg/kg

**Dermal:**

ATE-mix: 15,447 mg/kg.

Substance	Test	Result
Benzyl alcohol	LD50, rabbit	> 2,000 mg/kg
Diethylenetriamine	LD50, rabbit	1,045 mg/kg

**Inhalation:**

High vapor concentrations can cause severe eye and respiratory tract irritation, coughing and labored breathing. ATE-mix: 628.6 mg/l (vapor).

Substance	Test	Result
Diethylenetriamine	LC50, rat, 8 hours	No mortality at vapor saturation level
Benzyl alcohol	cATpE	11 mg/l (vapor)

**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:**

May cause an allergic skin reaction.

Substance	Test	Result
Diethylenetriamine	Skin sensitization, guinea pig	Sensitizing

**Germ cell mutagenicity:**

Diethylenetriamine Benzyl alcohol: 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 the European Chemicals Agency (ECHA).

**Reproductive toxicity:**

Diethylenetriamine, 23871, effects on or via lactation: data lacking.

**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**

Many aquatic species are intolerant to corrosive material such as the unreacted curing agent.

**12.2. Persistence and degradability**

Diethylenetriamine: expected to be resistant to biodegradation. Benzyl alcohol: readily biodegradable.

**12.3. Bioaccumulative potential**

Diethylenetriamine: bioconcentration in aquatic organisms is not expected to be significant (log Kow: 2.13). Benzyl alcohol: low potential for bioaccumulation (BCF < 100) (log Kow: 1.1).

**12.4. Mobility in soil**

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

**12.5. 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. May be incinerated at an appropriate 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:** UN3259  
**TDG:** UN3259  
**US DOT:** UN3259

**14.2. UN proper shipping name**

**ADG/ADR/RID/ADN/IMDG/ICAO:** AMINES, SOLID, CORROSIVE, N.O.S. (CONTAINS 2,2'-IMINODIETHYLAMINE)  
**TDG:** AMINES, SOLID, CORROSIVE, N.O.S. (CONTAINS 2,2'-IMINODIETHYLAMINE)  
**US DOT:** AMINES, SOLID, CORROSIVE, N.O.S. (CONTAINS 2,2'-IMINODIETHYLAMINE)

**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:** II  
**TDG:** II  
**US DOT:** II

**14.5. Environmental hazards**

NO

**14.6. Special precautions for user**

NO SPECIAL PRECAUTIONS FOR USERS

**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 1 kg (49 CFR 173.154 (b),(1))

**IMDG:** EmS. F-A, S-B, IMDG segregation group 18-Alkalis

**ADR:** Classification code C8, 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:**

Acute toxicity  
 Skin corrosion  
 Serious eye damage  
 Skin sensitization

None

**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](http://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
Acute Tox. 4, H302	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam. 1, H318	Calculation method
Skin Sens. 1, H317	Bridging principle "Dilution"

**Relevant H-statements:** H302: Harmful if swallowed.  
 H314: Causes severe skin burns and eye damage.  
 H317: May cause an allergic skin reaction.  
 H318: Causes serious eye damage.

**Hazard pictogram names:** Corrosion, exclamation mark

**Further information:** None

**Date of last revision:** 13 September 2021

**Changes to the SDS in this revision:** Complete change to represent new formulation.

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.