

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:** 17 August 2018 **SDS No.** 348B-12

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

1.1. Product identifier

ARC BX5 (Part B)

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

ARC Polymer Composite. When mixed with ARC BX5 (Part A), forms a hard abrasion resistant surface. Cures in 15 minutes for fast repairs.

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
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 2015 / Safe Work Australia / GHS

Flammable liquid, Category 4, H227
Serious eye damage, Category 1, H318
Skin irritation, Category 2, H315
Skin sensitization, Category 1, H317
Hazardous to the aquatic environment, Chronic, Category 2, H411

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:	H227	Combustible liquid.
	H318	Causes serious eye damage.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H411	Toxic to aquatic life with long lasting effects.
Precautionary statements:	P210	Keep away from flames and hot surfaces. – No smoking.
	P264	Wash hands thoroughly after handling.
	P273	Avoid release to the environment.
	P280	Wear protective gloves and eye/face protection.
	P305/351/338	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 or doctor.
	P333/313	If skin irritation or rash occurs: Get medical advice/attention.
	P362/364	Take off contaminated clothing and wash it before reuse.
	P370/378	In case of fire: Use CO2, dry chemical, foam or water fog to extinguish.
	P391	Collect spillage.
	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, it can only be categorized as a nuisance dust.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous Ingredients ¹	% Wt.	CAS No.
Formaldehyde polymer with 1,3-benzenedimethanamine and phenol	10 - 20	57214-10-5
m-Phenylenebis(methylamine) (Synonym: m-Xylene-alpha, alpha'-Diamine)	6 - 10	1477-55-0
Nitric acid, ammonium calcium salt	1 - 5	15245-12-2
Ethanol	1 - 5	64-17-5
N-(3-(trimethoxysilyl)propyl)ethylenediamine	0.1 - 0.9	1760-24-3
Other ingredients ¹ :		
Silicon carbide	7 - 13	409-21-2

¹ 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: Wash skin with soap and water. Remove contaminated clothing and wash before reuse. Consult physician.

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

Ingestion: If conscious, do not induce vomiting; drink milk, water or vinegar. Contact physician immediately.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. Avoid contact with skin and eyes. See section 8.2.2 for recommendations on personal protective equipment.

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

Direct contact will cause severe irritation to skin, eyes and mucous membranes. May cause burns to eyes. High vapor concentrations may irritate eyes, respiratory tract and possibly cause dizziness and drowsiness. 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.

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

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

Unsuitable extinguishing media: No information available

5.2. Special hazards arising from the substance or mixture

May generate: ammonia gas, toxic nitrogen oxide gases, carbon monoxide. Use of water may result in the formation of very toxic aqueous solutions.

5.3. Advice for firefighters

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

Australian HAZCHEM Emergency Action Code: 2 X

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

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

6.2. Environmental Precautions

No special requirements.

6.3. Methods and material for containment and cleaning up

Evacuate area. Provide adequate ventilation. Keep away from sources of ignition - No smoking. If removal of ignition sources is not possible, then flush material away with water. Cover minor spills with Sodium Bisulfite to neutralize and reduce vapors. 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**

Remove contaminated clothing and wash before reuse. Contaminated leather including shoes cannot be decontaminated and should be discarded. Utilize exposure controls and personal protection as specified in Section 8.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry and well-ventilated 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
Formaldehyde polymer with 1,3-benzenedimethanamine and phenol	N/A	N/A	N/A	N/A	N/A	N/A
m-Phenylenebis(methylamine)	N/A	N/A	0.018 (Ceiling)	(skin)	N/A	0.1 (Peak)
Nitric acid, ammonium calcium salt	N/A	N/A	N/A	N/A	N/A	N/A
Ethanol	1,000	1,900	1,000	(STEL)	1,000	1,880
N-(3-(trimethoxysilyl)propyl)ethylenediamine	N/A	N/A	N/A	N/A	N/A	N/A
Silicon carbide	(total) (resp.)	15 5	(inhal.) (resp.)	10 3	N/A	10

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 limits. If necessary, provide local exhaust.

8.2.2. Individual protection measures

Respiratory protection: Not normally needed. If exposure limits are exceeded, use a self-contained breathing apparatus (SCBA), supplied air respirator (SAR) or air-purifying respirator (APR) with a suitable filter (e.g., EN filter type A-P2).

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

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	gritty paste	Odour	amine
Colour	red	Odour threshold	not determined
Initial boiling point	not determined	Vapour pressure @ 20°C	not determined
Melting point	not applicable	% Aromatics by weight	none
% Volatile (by volume)	none	pH	not applicable
Flash point	> 77°C (> 170°F)	Relative density	2.09 kg/l
Method	PM Closed Cup	Weight per volume	17.4 lbs/gal.
Viscosity	50,000 cps @ 25°C	Coefficient (water/oil)	< 1
Autoignition temperature	not determined	Vapour density (air=1)	> 1
Decomposition temperature	not determined	Rate of evaporation (ether=1)	< 1
Upper/lower flammability or explosive limits	not determined	Solubility in water	insoluble
Flammability (solid, gas)	not applicable	Oxidising properties	not determined
Explosive properties	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 under normal conditions.

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

Carbon Monoxide, Carbon Dioxide, NOx, Ammonia and other toxic fumes (by combustion).

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 skin or lung allergies may be aggravated by exposure.

Acute toxicity -**Oral:**

ATE-mix = 5,201 mg/kg.

Substance	Test	Result
m-Phenylenebis(methylamine)	LD50, rat	930 mg/kg
Ethanol	LD50, rat	6,200 mg/kg
Formaldehyde polymer with 1,3-benzenedimethanamine and phenol	LD50, rat	> 2,000 mg/kg
Nitric acid, ammonium calcium salt	cATpE	500 mg/kg
N-(3-(trimethoxysilyl)propyl)ethylenediamine	LD50, rat	2,413 mg/kg

Dermal:

Direct contact will cause severe irritation to skin, eyes and mucous membranes.

Substance	Test	Result
m-Phenylenebis(methylamine)	LD50, rabbit	≈ 2,000 mg/kg
Ethanol	LDLo, rabbit	20,000 mg/kg
Formaldehyde polymer with 1,3-benzenedimethanamine and phenol	LD50, rabbit	2,020 mg/kg
Nitric acid, ammonium calcium salt	LD50, rat	> 2,000 mg/kg
N-(3-(trimethoxysilyl)propyl)ethylenediamine	LD50, rabbit	2,009 mg/kg

Inhalation:

High vapor concentrations may irritate eyes, respiratory tract and possibly cause dizziness and drowsiness. ATE-mix, 11.55 mg/l (mist).

Substance	Test	Result
m-Phenylenebis(methylamine)	LC50, rat, 4 hours	1.34 mg/l (mist, analytical)
m-Phenylenebis(methylamine)	LC50, rat, 4 hours	95.6 mg/l
N-(3-(trimethoxysilyl)propyl)ethylenediamine	LC50, rat, 4 hours	> 1.49 mg/l (mist)

Skin corrosion/irritation:

Causes skin irritation.

Substance	Test	Result
ARC BX5 (Part B)	Corrositex® (OECD 435)	Non-corrosive

Serious eye damage/irritation:

Causes serious eye damage.

Respiratory or skin sensitisation:

May cause an allergic skin reaction.

Germ cell mutagenicity:

Formaldehyde polymer with 1,3-benzenedimethanamine and phenol: no data available. m-Phenylenebis(methylamine), Nitric acid, ammonium calcium salt, Ethanol, N-(3-(trimethoxysilyl)propyl)ethylenediamine: 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:

Formaldehyde polymer with 1,3-benzenedimethanamine and phenol: no data available. m-Phenylenebis(methylamine), Nitric acid, ammonium calcium salt, effects on or via lactation: data lacking. Ethanol: based on available data, the classification criteria are not met.

STOT – single exposure:

Data lacking. Excessive inhalation of vapors or mists can cause coughing, chest tightness and difficulty breathing.

STOT – repeated exposure:

No data available

Aspiration hazard: Not classified as an aspiration toxicant.

Other information: None

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

Toxic to aquatic life with long lasting effects. Formaldehyde polymer with 1,3-benzenedimethanamine and phenol: 96 hr EC50, Rainbow trout = 0.76 mg/l (read-across). m-Phenylenebis(methylamine) is harmful to aquatic organisms [72 h EC50 (for algae): 12 mg/l].

12.2. Persistence and degradability

Unreacted components (Parts A and B), improperly released to the environment, can cause ground and water pollution. m-Phenylenebis(methylamine), biodegradation, OECD 301B (28 days): 49%, not readily biodegradable. Ethanol: readily biodegradable; oxidizes rapidly by photochemical reactions in air.

12.3. Bioaccumulative potential

Ethanol: log Kow = 0.31; not expected to bioaccumulate in aquatic organisms. m-Phenylenebis(methylamine): low potential for bioaccumulation (BCF < 100). N-(3-(trimethoxysilyl)propyl)ethylenediamine: bioconcentration in aquatic organisms is not expected to be significant.

12.4. Mobility in soil

Viscous paste. Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). m-Phenylenebis(methylamine), log Kow (QSAR): 3.11.

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. Unreacted components are a special waste. May be incinerated at an appropriate facility. 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: UN3082

TDG: UN3082

US DOT: UN3082

14.2. UN proper shipping name

ADG/ADR/RID/ADN/IMDG/ICAO: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Formaldehyde polymer with 1,3-benzenedimethanamine and phenol)

TDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Formaldehyde polymer with 1,3-benzenedimethanamine and phenol)

US DOT: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Formaldehyde polymer with 1,3-benzenedimethanamine and phenol)

14.3. Transport hazard class(es)

ADG/ADR/RID/ADN/IMDG/ICAO: 9

TDG: 9

US DOT: 9

14.4. Packing group

ADG/ADR/RID/ADN/IMDG/ICAO: III

TDG: III

US DOT: III

14.5. Environmental hazards

MARINE POLLUTANT

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.171,

May be shipped as NON-RESTRICTED in non-bulk packagings (119 gallons or less) by motor vehicle, rail car or aircraft.
(49 CFR 171.4(c))

IMDG: EmS. F-A, S-F

May be shipped as NON-RESTRICTED in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less. (IMDG CODE Amendment 37-14, 2.10.2.7)

ICAO/IATA: May be shipped as NON-RESTRICTED in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less. (IATA Dangerous Goods Regulation 56th edition, 4.4 Special Provisions A197)**ADR:** Classification code M6 Tunnel restriction code (E)

May be shipped as NON-RESTRICTED in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less. (ADR 2015 Volume 1, Chapter 3.3 Special Provisions 375)

ADG HAZCHEM CODE: ●3Z **HIN:** 90**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:**

Flammable liquid
Serious eye damage
Skin irritation
Skin sensitization

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

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.

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
Flam. Liq. 4, H227	On basis of test data
Eye Dam. 1, H318	Calculation method
Skin Irrit. 2, H315	Calculation method
Skin Sens. 1, H317	Bridging principle "Dilution"
Aquatic Chronic 2, H411	Calculation method

Relevant H-statements: H227: Combustible liquid.
 H314: Causes severe skin burns and eye damage.
 H317: May cause an allergic skin reaction.
 H318: Causes serious eye damage.
 H411: Toxic to aquatic life with long lasting effects.

Hazard pictogram names: Corrosion, exclamation mark, environment

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.