

SAFETY DATA SHEET

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

Revision date: 12 July 2024 **Date of previous issue:** 4 November 2021 **SDS No.** 479-1

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

1.1. Product identifier

ARC EG-1 FC (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.

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

Acute toxicity, Category 4, H302, H332
 Acute toxicity, Category 5, H313
 Skin corrosion, Category 1B, H314
 Serious eye damage, Category, H318
 Skin sensitization, Category 1, H317
 Germ cell mutagenicity, Category 2, H341
 Specific target organ toxicity – repeated exposure, Category 2, H373 (kidneys, liver, skin, nervous system)
 Hazardous to the aquatic environment, Chronic, Category 3, H412

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:	H302/332	Harmful if swallowed or if inhaled.
	H313	May be harmful in contact with skin.
	H314	Causes severe skin burns and eye damage.
	H317	May cause an allergic skin reaction.
	H341	Suspected of causing genetic defects.
	H373	May cause damage to organs (liver, kidneys, skin, nervous system) through prolonged or repeated exposure.
	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.
	P260	Do not breathe vapours.
	P264	Wash skin thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P271	Use only outdoors or in a well-ventilated area.
	P272	Contaminated work clothing must not be allowed out of the workplace.
	P273	Avoid release to the environment.
	P280	Wear protective gloves, protective clothing and eye/face protection.
	P301/330/331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
	P303/361/353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
	P363	Wash contaminated clothing before reuse.
	P304/340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P310	Immediately call a POISON CENTER or doctor.
	P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308/313	IF exposed or concerned: Get medical advice/attention.	
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, Part B and Part C.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous Ingredients ¹	% Wt.	CAS No.	GHS Classification
Benzyl alcohol	10 - 30	100-51-6	Acute Tox. 4, H302, H332 Eye Irrit. 2 ^a , H319
Methyleneoxide, polymer with benzenamine, hydrogenated	10 - 30	135108-88-2	Acute Tox. 3, H301 Skin Corr. 1C, H314 Skin Sens. 1, H317 STOT RE, H373 (oral, kidneys) Aquatic Chronic 3, H412
Phenol	4 - 12	108-95-2	Acute Tox. 3, H301, H331 (dust/mist) Skin Corr. 1C, H314 (C ≥ 3 %) Muta. 2, H341 STOT RE, H373 (kidneys, liver, skin, nervous system)
m-Phenylenebis(methylamine) (Synonym: m-Xylene-alpha, alpha'-Diamine)	3 - 10	1477-55-0	Acute Tox. 4, H302, H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1B, H317 Aquatic Chronic 3, H412
N,N'-bis(3-aminopropyl)ethylenediamine	1 - 7	10563-26-5	Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Corr. 1B, H314 Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412
2,4,6-Tris(dimethylaminomethyl)phenol	1 - 7	90-72-2	Acute Tox. 4, H302/312 Skin Corr. 1C, H314 Eye Dam. 1, H318

For full text of H-statements: see SECTION 16.

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 15 minutes with large amounts of water. Consult physician.

Ingestion: Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Prevent aspiration of vomit. Turn victim's head to the side.

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. Provide adequate ventilation. Avoid breathing vapors. 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 burns to skin, eyes and mucous membranes. May cause skin sensitization as evidenced by rashes or hives. Repeated and/or prolonged exposure to low concentrations of vapors may cause: sore throat.

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, dry sand, limestone powder, alcohol-resistant foam, water fog

Unsuitable extinguishing media: No data available

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Burning produces noxious and toxic fumes. May generate: ammonia gas, toxic nitrogen oxide gases. Incomplete combustion may form carbon monoxide.

Other hazards: Use of water may result in the formation of very toxic aqueous solutions. Do not allow runoff from firefighting to enter drains or water courses.

5.3. Advice for firefighters

Cool exposed containers with water. Use personal protective equipment. Recommend Firefighters wear self-contained breathing apparatus.

Australian HAZCHEM Emergency Action Code: 2 Y

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Use self-contained breathing apparatus and chemically protective clothing. Utilize exposure controls and personal protection as specified in Section 8.

6.2. Environmental Precautions

Contain spill to a small area. 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

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

7.2. Conditions for safe storage, including any incompatibilities

Do not store near acids. Store in a cool, dry and well-ventilated area. Keep container tightly closed.

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
Benzyl alcohol	N/A	N/A	N/A	N/A	N/A	N/A
Methyleneoxide, polymer with benzenamine, hydrogenated	N/A	N/A	N/A	N/A	N/A	N/A
Phenol	5 (skin)	19	5 (skin)	N/A	1 (skin)	4
m-Phenylenebis(methylamine)*	N/A	N/A	0.018 (skin) (Ceiling)	N/A	(skin)	0.1 (Peak)
N,N'-bis(3-aminopropyl)ethylenediamine	N/A	N/A	N/A	N/A	N/A	N/A
2,4,6-Tris(dimethylaminomethyl)phenol	N/A	N/A	N/A	N/A	N/A	N/A

* U.S. National Institute for Occupational Safety and Health (NIOSH) REL: 0.1 mg/m³ (Ceiling)¹ United States Occupational Health & Safety Administration permissible exposure limits² American Conference of Governmental Industrial Hygienists threshold limit values³ Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants**Biological limit values**

Phenol:

Control parameter	Biological specimen	Sampling Time	Limit value	Basis	Notes
Phenol	Urine	End of shift	250 mg/g creatinine	ACGIH	Background, Nonspecific

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

Provide sufficient ventilation to keep the concentrations below the exposure limits. Provide readily accessible eye wash stations and safety showers.

8.2.2. Individual protection measures**Respiratory protection:** In case of insufficient ventilation, utilize an approved organic vapor respirator (e.g., EN filter type A-P2).**Protective gloves:** Chemical resistant gloves (e.g., nitrile rubber, butyl rubber, neoprene, PVC)**Eye and face protection:** Full face shield with goggles underneath.**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	liquid	pH	alkaline
Colour	amber	Kinematic viscosity	1,600 cPs @ 25°C (77°F)
Odour	ammoniacal	Solubility in water	not determined
Odour threshold	not applicable	Partition coefficient	not applicable
		n-octanol/water (log value)	
Boiling point or range	not applicable	Vapour pressure @ 20°C	not determined
Melting point/freezing point	not applicable	Density and/or relative density	1.09 kg/l
% Volatile (by volume)	not applicable	Weight per volume	8.35 lbs/gal.
Flammability	not determined	Vapour density (air=1)	not determined
Lower/upper flammability or explosion limits	not applicable	Rate of evaporation (ether=1)	< 1
Flash point	> 100°C (> 212°F)	% Aromatics by weight	not applicable
Method	Closed Cup	Particle characteristics	not applicable
Autoignition temperature	not applicable	Explosive properties	not applicable
Decomposition temperature	not applicable	Oxidising properties	not applicable

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

No data available

10.5. Incompatible materials

Strong oxidizing agents. Mineral and organic acids. Reactive metals (e.g. sodium, calcium, zinc, etc.) Materials reactive with hydroxyl compounds. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

10.6. Hazardous decomposition products

Nitric acid, NO_x, Ammonia, Carbon Monoxide, Carbon Dioxide, aldehydes, flammable hydrocarbon fragments 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 skin or lung allergies may be aggravated by exposure.

Acute toxicity -**Oral:**

Harmful if swallowed. ATE-mix = 671.9 mg/kg.

Substance	Test	Result
Benzyl alcohol	LD50, rat	1,620 mg/kg
Methyleneoxide, polymer with benzenamine, hydrogenated	LD50, rat	300 mg/kg
Phenol	LDLo human	140 mg/kg
m-Phenylenebis(methylamine)	LD50, rat	930 mg/kg
N,N'-bis(3-aminopropyl)ethylenediamine	LD50, rat	1200 mg/kg
2,4,6-Tris(dimethylaminomethyl)phenol	LD50, rat	1200 mg/kg

Dermal:

May be harmful in contact with skin. ATE-mix = 2,243.2 mg/kg.

Substance	Test	Result
Benzyl alcohol	LD50, rabbit	> 2,000 mg/kg
Methyleneoxide, polymer with benzenamine, hydrogenated	LD50, rabbit	2,673 mg/kg (estimated)
Phenol	LD50, rat	525 mg/kg
m-Phenylenebis(methylamine)	LD50, rabbit	> 2,000 mg/kg
N,N'-bis(3-aminopropyl)ethylenediamine	LD50, rabbit	300 mg/kg
2,4,6-Tris(dimethylaminomethyl)phenol	LD50, rat	1,280 mg/kg

Inhalation:

Harmful if inhaled. ATE-mix = 16.41 mg/l (vapour); 2.31 mg/l (mist).

Substance	Test	Result
Benzyl alcohol	LC50, rat	> 4.178 mg/l (mist) ≈ 8.8 mg/l (vapour)
Phenol	LC50, rat	0.5 mg/l (dust/mist, cATpE)
m-Phenylenebis(methylamine)	LC50, rat	1.34 mg/l (mist)

Skin corrosion/irritation:

Causes burns.

Substance	Test	Result
Benzyl alcohol	Skin irritation, rabbit (OECD 404)	Not irritating
Methyleneoxide, polymer with benzenamine, hydrogenated	In vitro test	Corrosive
m-Phenylenebis(methylamine)	Skin irritation, rabbit (OECD 404)	Corrosive
2,4,6-Tris(dimethylaminomethyl)phenol	Skin irritation, rabbit (OECD 404)	Corrosive

Serious eye damage/irritation:

Causes serious eye damage.

Substance	Test	Result
2,4,6-Tris(dimethylaminomethyl)phenol	Eye irritation, rabbit	Severe irritation

Respiratory or skin sensitisation:

May cause skin sensitization as evidenced by rashes or hives.

Germ cell mutagenicity:

Suspected of causing genetic defects. Phenol: micronucleus test (OECD 474) mouse, male and female, positive. Methyleneoxide, polymer with benzenamine, hydrogenated: OECD 471 (Ames test) 473, negative. (chromosomal aberration). Benzyl alcohol, m-Phenylenebis(methylamine): 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:

Benzyl alcohol, N,N'-bis(3-aminopropyl)ethylenediamine: based on available data, the classification criteria are not met.

STOT – single exposure:

Benzyl alcohol, N,N'-bis(3-aminopropyl)ethylenediamine: based on available data, the classification criteria are not met.

STOT – repeated exposure:

Phenol: may cause damage to the nervous system, liver, kidneys and skin through prolonged or repeated exposure. Methyleneoxide, polymer with benzenamine, hydrogenated: may cause damage to the kidneys through prolonged or repeated exposure. Benzyl alcohol, N,N'-bis(3-aminopropyl)ethylenediamine: based on available data, the classification criteria are not met.

Aspiration hazard:

Not classified as an aspiration toxicant.

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

Harmful to aquatic life with long lasting effects. Benzyl alcohol: 96 h LC50 (fish) 10 mg/l; 72 h IC50 (for algae) 700 mg/l. Methyleneoxide, polymer with benzenamine, hydrogenated: 48 h EC50 (for daphnia) = 15.4 mg/l. m-Phenylenebis(methylamine): 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. Benzyl alcohol: expected to biodegrade relatively quickly. m-Phenylenebis(methylamine), biodegradation, OECD 301B (28 days): 49%, not readily biodegradable.

12.3. Bioaccumulative potential

Benzyl alcohol: low potential for bioaccumulation. Methyleneoxide, polymer with benzenamine, hydrogenated: does not bioaccumulate. m-Phenylenebis(methylamine): low potential for bioaccumulation (BCF < 100).

12.4. Mobility in soil

Liquid. 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. 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: UN2735
TDG: UN2735
US DOT: UN2735

14.2. UN proper shipping name

ADG/ADR/RID/ADN/IMDG/ICAO: AMINES, LIQUID, CORROSIVE, N.O.S.
(M-PHENYLENEBIS(METHYLAMINE) / TERTIARY AMINE)
TDG: AMINES, LIQUID, CORROSIVE, N.O.S.
(M-PHENYLENEBIS(METHYLAMINE) / TERTIARY AMINE)
US DOT: AMINES, LIQUID, CORROSIVE, N.O.S.
(M-PHENYLENEBIS(METHYLAMINE) / TERTIARY AMINE)

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 USER

14.7. Maritime transport in bulk according to IMO instruments

NOT APPLICABLE

14.8. Other information

US DOT: ERG NO. 153
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 LITER (49 CFR 173.154 (B),(1))

IMDG: EMS F-A, S-B, IMDG SEGREGATION GROUP 18-ALKALIS
ADR: CLASSIFICATION CODE C7, 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	Phenol	108-95-2	4 – 12%
Skin corrosion			
Serious eye damage			
Skin sensitization			
Germ cell mutagenicity			

TSCA: All 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
Acute Tox. 4, H302, H332	Calculation method
Acute Tox. 5, H313	Calculation method
Skin Corr. 1B, H314	Calculation method
Eye Dam, H318	Calculation method
Skin Sens. 1, H317	Calculation method
Muta. 2, H341	Calculation method
STOT RE 2, H373	Calculation method
Aquatic Chronic 3, H412	Calculation method

Relevant H-statements:

- H301: Toxic if swallowed.
- H302: Harmful if swallowed.
- H311: Toxic in contact with skin.
- H312: Harmful in contact with skin.
- H313: May be 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.
- H319: Causes serious eye irritation.
- H332: Harmful if inhaled.
- H341: Suspected of causing genetic defects.
- H373: May cause damage to organs through prolonged or repeated exposure.
- H412: Harmful to aquatic life with long lasting effects.

Hazard pictogram names: Corrosion, health hazard, exclamation mark

Further information: None

Date of last revision: 12 July 2024

Changes to the SDS in this revision: Sections 1.2, 1.3, 3, 4.2, 5.2, 6.2, 8.1, 9.1, 11, 12.5, 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.