

SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200 / WHMIS 2015 / GHS

Revision date: 30 August 2018

Initial date of issue: 30 August 2018

SDS No. 471A

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

1.1. Product identifier

ARC EG-1 (Part A)

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.

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): ProductMSDSs@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 / GHS

Skin irritation, Category 2, H315
Eye irritation, Category 2, H319
Skin sensitization, Category 1, H317
Germ cell mutagenicity, Category 2, H341
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 / GHS

Hazard pictograms:



Signal word:

Warning

Hazard statements:	H315	Causes skin irritation.
	H319	Causes serious eye irritation.
	H317	May cause an allergic skin reaction.
	H341	Suspected of causing genetic defects.
	H411	Toxic 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 mist.
	P264	Wash skin thoroughly after handling.
	P272	Contaminated work clothing must not be allowed out of the workplace.
	P273	Avoid release to the environment.
	P280	Wear protective gloves and eye/face protection.
	P302/352	IF ON SKIN: Wash with plenty of soap and water.
	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.
	P362/364	Take off contaminated clothing and wash it before reuse.
	P391	Collect spillage.
	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 by part. 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
Epoxy resin (number average molecular weight <= 700)	70-80	25068-38-6 500-033-5	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
2,3-Epoxypropyl o-tolyl ether	15-25	2210-79-9 218-645-3	Skin Irrit. 2, H315 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411

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 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:	Remove contaminated clothing. Wash skin with soap and water. Wash clothing before reuse. Contact physician if irritation persists.
Eye contact:	Flush eyes for at least 15 minutes with large amounts of water. Contact physician if irritation persists.
Ingestion:	Do not induce vomiting. 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 for recommendations on personal protective equipment.

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

Moderate eye and skin irritant. May cause skin sensitization (possible rash, hives). Inhalation may cause irritation to nose, throat and respiratory tract.

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

Treat symptoms.

SECTION 5: FIREFIGHTING MEASURES**5.1. Extinguishing media****Suitable extinguishing media:** Carbon dioxide, dry chemical, foam or water fog**Unsuitable extinguishing media:** None known**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition may produce Carbon Monoxide, Carbon Dioxide, aldehydes and other toxic fumes.

5.3. Advice for firefighters

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

Flammability Classification: –**HAZCHEM Emergency Action Code:** 2 Z**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

Avoid all direct 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

Contain spill to a small 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**

Avoid all direct contact. Do not breathe spray. Utilize exposure controls and personal protection as specified in Section 8. Wash thoroughly after handling. Remove contaminated clothing. Wash clothing before reuse. Contaminated leather including shoes cannot be decontaminated and should be discarded.

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
Epoxy resin (number average molecular weight <= 700)	–	–	–	–	–	–
2,3-Epoxypropyl o-tolyl ether	–	–	–	–	–	–

¹ United States Occupational Health & Safety Administration permissible exposure limits² American Conference of Governmental Industrial Hygienists threshold limit values³ Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003]

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

If exposure limits are exceeded, provide adequate ventilation.

8.2.2. Individual protection measures

Respiratory protection: Not normally needed. During spraying, wear suitable respiratory equipment.

Protective gloves: Chemical resistant gloves (e.g., nitrile rubber, butyl rubber, neoprene, 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	viscous liquid	Odour	sweet odor
Colour	clear	Odour threshold	not determined
Initial boiling point	not determined	Vapour pressure @ 20°C	not determined
Melting point	not determined	% Aromatics by weight	0%
% Volatile (by volume)	0%	pH	not applicable
Flash point	100°C (213°F)	Relative density	1.14 kg/l
Method	PM Closed Cup	Weight per volume	9.5 lbs/gal.
Viscosity	500-1,100 cps @ 25°C	Coefficient (water/oil)	< 1
Autoignition temperature	not applicable	Vapour density (air=1)	> 1
Decomposition temperature	not determined	Rate of evaporation (ether=1)	< 1
Upper/lower flammability or explosive limits	not applicable	Solubility in water	insoluble
Flammability (solid, gas)	not applicable	Oxidising properties	not determined
Explosive properties	not determined		

9.2. Other information

VOC (EPA 24): 1.68 lbs/gal.

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

None

10.5. Incompatible materials

Strong acids/bases and strong oxidizers like liquid Chlorine and concentrated Oxygen.

10.6. Hazardous decomposition products

Carbon Monoxide, Carbon Dioxide, aldehydes 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: Based on available data on components, the classification criteria are not met. Ingestion may result in mouth, throat and gastrointestinal irritation, nausea, vomiting and diarrhea.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LD50, rat	11,400 mg/kg
2,3-Epoxypropyl o-tolyl ether	LD50, rat	5,800 mg/kg

Dermal:

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LD50, rabbit	> 2,000 mg/kg
2,3-Epoxypropyl o-tolyl ether	LD50, rabbit (OECD 402)	> 2,000 mg/kg

Inhalation:

Inhalation may cause irritation to nose, throat and respiratory tract.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LC50, rat, 5-8 h	No mortality at vapor saturation level
2,3-Epoxypropyl o-tolyl ether	LC50 inhalation, rat, 4 h	1,220 ppm

Skin corrosion/irritation:

Causes skin irritation.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Skin irritation, rabbit	Moderate irritation
2,3-Epoxypropyl o-tolyl ether	Skin irritation, human experience	Severe irritation

Serious eye damage/irritation:

Causes serious eye irritation.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Eye irritation, rabbit	Mild irritation / Moderate irritation

Respiratory or skin sensitisation:

May cause skin sensitization as evidenced by rashes or hives.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Skin sensitization, guinea pig	Sensitizing
2,3-Epoxypropyl o-tolyl ether	Skin sensitization, human experience	Sensitizing

Germ cell mutagenicity:

2,3-Epoxypropyl o-tolyl ether is mutagenic (changes in genetic systems) in some laboratory tests. Epoxy resin (number average molecular weight <= 700): 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:

Epoxy resin (number average molecular weight <= 700): based on available data, the classification criteria are not met. Prolonged and repeated exposure to 2,3-Epoxypropyl O-tolyl Ether may cause reproductive disorders (birth defects/sterility), data lacking.

STOT – single exposure:

Not expected to cause toxicity.

STOT – repeated exposure:

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Sub-chronic NOAEL, oral, 90 days, rat, male / female (OECD 408)	50 mg/kg
Epoxy resin (number average molecular weight <= 700)	Sub-chronic NOAEL, dermal, 90 days, rat, male / female (OECD 411)	10 mg/kg
Epoxy resin (number average molecular weight <= 700)	Sub-chronic NOAEL, dermal, 90 days, mouse, male (OECD 411)	100 mg/kg

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

2,3-Epoxypropyl o-tolyl ether and Epoxy resin (number average molecular weight <= 700) are toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment (LC50/EC50 between 1 and 10 mg/l in the most sensitive species.).

12.2. Persistence and degradability

Epoxy resin (number average molecular weight <= 700), 2,3-Epoxypropyl o-tolyl ether: not readily biodegradable. Unreacted components (Parts A and B), improperly released to the environment, can cause ground and water pollution.

12.3. Bioaccumulative potential

Epoxy resin (number average molecular weight <= 700): log Kow = 2.64-3.8, low potential for bioaccumulation. 2,3-Epoxypropyl o-tolyl ether: log Kow = 2.5, low potential for bioaccumulation.

12.4. Mobility in soil

Viscous liquid. Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). Epoxy resin: if product enters soil, it will be mobile and may contaminate groundwater.

12.5. Other adverse effects

None known

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

Unreacted components are a special waste (classified as hazardous according to 2008/98/EC). Combine resin and curative. The final cured material is considered nonhazardous. Landfill sealed containers with stabilized and solidified liquids in an approved area. Check local, state and national/federal regulations and comply with the most stringent requirement.

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

ADR/RID/ADN/IMDG/ICAO: UN3082
TDG: UN3082
US DOT: UN3082

14.2. UN proper shipping name

ADR/RID/ADN/IMDG/ICAO: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)
TDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)
US DOT: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (EPOXY RESIN)

14.3. Transport hazard class(es)

ADR/RID/ADN/IMDG/ICAO: 9
TDG: 9
US DOT: 9

14.4. Packing group

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. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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)

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:**

See section 2.1

313 Chemicals:

None

Other national regulations: National implementations of the EC Directives referred to in section 15.1.1.**SECTION 16: OTHER INFORMATION**

Abbreviations and acronyms:

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 Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Calculation method
Muta. 2, H341	Calculation method
Aquatic Chronic 2, H411	Calculation method

Relevant H-statements: H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H319: Causes serious eye irritation.
 H341: Suspected of causing genetic defects.
 H411: Toxic to aquatic life with long lasting effects.

Hazard pictogram names: Health hazard, exclamation mark, environment

Changes to the SDS in this revision: Original issue.

Date of last revision: 30 August 2018

Further information: None

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.