SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200 / WHMIS 2015 / GHS

Revision date: 5 March 2019 **Initial date of issue:** 5 March 2019 **SDS No.** 471C

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

1.1. Product identifier

ARC EG-1 (Part C)

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

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

Supplier:

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

Carcinogenicity, Category 1A, H350i
Specific target organ toxicity – repeated exposure, Category 1, H372 (lungs, inhalation)

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: Danger

Hazard statements:

H350i	May cause cancer by inhalation.
H372	Causes damage to the lungs through prolonged or repeated exposure by inhalation.

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 dust.
	P264	Wash hands thoroughly after handling.
	P270	Do not eat, drink or smoke when using this product.
	P280	Wear eye protection.
	P308/313	IF exposed or concerned: Get medical advice/attention.
	P405	Store locked up.
	P501	Dispose of contents in accordance with local, regional and national regulations.

Supplemental information: None

2.3. Other hazards

The safety and health hazards are detailed separately by part. 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
Silica (Quartz)	98 - <100	14808-60-7	Carc. 1A, H350i STOT RE 1, H372 (lungs, inhalation)
Other ingredients:			
Aluminum oxide	<1.1	1344-28-1	Not classified*

For full text of H-statements: see SECTION 16.
*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 2015, Safe Work Australia, GHS

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: If exposed or concerned: Get medical advice/attention.

Skin contact: Not applicable

Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Contact physician if irritation persists.

Ingestion: Not applicable

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. Do not breathe dust. See section 8.2.2 for recommendations on personal protective equipment.

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

Dry chronic cough, sputum production, shortness of breath, wheezing and reduced pulmonary function.

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: Not combustible. Use extinguishing media suitable for the surrounding fire.

Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture

None

5.3. Advice for firefighters

Wear respiratory protection where airborne dust occurs.

Flammability Classification: –

HAZCHEM Emergency Action Code: 2 Z

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid creating dust. Utilize exposure controls and personal protection as specified in Section 8.

6.2. Environmental Precautions

No special requirements.

6.3. Methods and material for containment and cleaning up

Dust shall be HEPA vacuumed or wet swept.

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 breathe dust. Avoid airborne dust generation. Utilize exposure controls and personal protection as specified in Section 8. Respirable crystalline silica dust may be invisible in the air. Use normal precautions against bag breakage or spills of bulk material. Remove contaminated clothing and wash before reuse. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers closed. Store in a cool, dry area. Use good housekeeping in storage and use areas to prevent accumulation of dust in work areas. Quartz is incompatible with strong oxidizers such as hydrofluoric acid, fluorine, chlorine trifluoride, or oxygen difluoride.

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
Silica (Quartz)	(resp.) (total)	0.05 30/(%SiO_2+2)	(resp.)	0.025	(resp.)	0.1
Aluminum oxide	–	15	(resp.)	1	(inhal.)	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

Not available

8.2. Exposure controls

8.2.1. Engineering measures

Avoid airborne dust generation. Use process enclosures and appropriate exhaust ventilation at places where airborne dust is generated, including during loading and unloading. Apply organizational measures, e.g. by isolating personnel from dusty areas.

8.2.2. Individual protection measures

Respiratory protection: If exposure limits are exceeded, use an approved particulate dust respirator.

Protective gloves: Appropriate hand protection (e.g. gloves, barrier cream) is recommended for workers who suffer from dermatitis or sensitive skin.

Eye and face protection: Safety glasses

Other: None

8.2.3. Environmental exposure controls

Avoid wind dispersal.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	powder	**Odour**	none
Colour	gray	**Odour threshold**	not applicable
Initial boiling point	2230°C (4046°F)	**Vapour pressure @ 20°C**	not determined
Melting point	1710°C (3110°F)	**% Aromatics by weight**	not determined
% Volatile (by volume)	none	**pH**	not applicable
Flash point	not applicable	**Relative density**	2.65 kg/l
Method	PM Closed Cup	**Weight per volume**	22.04 lbs/gal.
Viscosity	not applicable	**Coefficient (water/oil)**	< 1
Autoignition temperature	not applicable	**Vapour density (air=1)**	> 1
Decomposition temperature	not applicable	**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 applicable
Explosive 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

None

10.5. Incompatible materials

Strong oxidizing agents such as fluorine, chlorine trifluoride, manganese trioxide, and oxygen difluoride, may cause fire.

10.6. Hazardous decomposition products

None

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Primary route of exposure under normal use: Inhalation. Personnel with pre-existing chronic respiratory impairments are generally aggravated by exposure.

Acute toxicity -

Oral: Based on available data on components, the classification criteria are not met.

Substance	Test	Result
Silica (Quartz)	LD50, rat	> 22,500 mg/kg
Aluminum oxide	LD50, rat	> 5,000 mg/kg

Dermal: Based on available data on components, the classification criteria are not met.

Inhalation: Not expected to be acutely toxic, based on data from similar materials.

Skin corrosion/irritation: Not irritating (OECD 404).

Serious eye damage/ irritation: Not irritating (OECD 405).

Respiratory or skin sensitisation: No known significant effects.

Germ cell mutagenicity:	Quartz has a genotoxic and mutagenic effect mainly through its inflammatory effects. Respirable quartz was unable to cause increased HPRT mutations in rat lung epithelial cells in vitro.
Carcinogenicity:	The International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) have classified inhaled silica as a human carcinogen.
Reproductive toxicity:	Not expected to be a reproductive toxicant.
STOT – single exposure:	Inconclusive data.
STOT – repeated exposure:	Repeated inhalation of respirable free silica may cause scarring of the lungs with cough and shortness of breath. Silicosis, a delayed lung injury that is a disabling, progressive and sometimes fatal pulmonary fibrosis, may result.
Aspiration hazard:	Not expected to be 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

This product is expected to exhibit low toxicity to aquatic and soil organisms.

12.2. Persistence and degradability

Inorganic substance, exists in nature.

12.3. Bioaccumulative potential

Does not bioaccumulate.

12.4. Mobility in soil

Expected to be immobile in soil.

12.5. Other adverse effects

None known

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Unused product is not a regulated hazardous waste. Check local, state and national/federal regulations and comply with the most stringent requirement.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

ADG/ADR/RID/ADN/IMDG/ICAO:	NOT APPLICABLE
TDG:	NOT APPLICABLE
US DOT:	NOT APPLICABLE

14.2. UN proper shipping name

ADG/ADR/RID/ADN/IMDG/ICAO:	NON-HAZARDOUS, NON REGULATED
TDG:	NON-HAZARDOUS, NON REGULATED
US DOT:	NON-HAZARDOUS, NON REGULATED

14.3. Transport hazard class(es)

ADG/ADR/RID/ADN/IMDG/ICAO:	NOT APPLICABLE
TDG:	NOT APPLICABLE
US DOT:	NOT APPLICABLE

14.4. Packing group

ADG/ADR/RID/ADN/IMDG/ICAO:	NOT APPLICABLE
TDG:	NOT APPLICABLE
US DOT:	NOT APPLICABLE

14.5. Environmental hazards

NOT APPLICABLE

14.6. Special precautions for user

NOT APPLICABLE

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

NOT APPLICABLE

14.8. Other information

NOT APPLICABLE

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:	**313 Chemicals:**
Carcinogenicity Specific target organ toxicity – repeated exposure	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
Carc. 1A, H350i	Calculation method
STOT RE 1, H372	Calculation method

Relevant H-statements: H350i: May cause cancer by inhalation.
H372: Causes damage to organs through prolonged or repeated exposure.

Hazard pictogram names: Health hazard

Further information: None

Date of last revision: 5 March 2019

Changes to the SDS in this revision: Original issue.

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.