

## SAFETY DATA SHEET

in accordance with 2020/878/EU (REACH, Annex II) 29 CFR 1910.1200, WHMIS 2015 and Safe Work Australia

**Revision date:** 18 January 2023      **Date of previous issue:** 24 September 2020      **SDS No.** 277-13

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

#### 1.1. Product identifier

ARC 5ES

**Unique Formula Identifier (UFI):** Not available

#### 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; provide abrasion resistant surfaces. The product is used as a fast cure patching material that applies like putty.

**Uses advised against:** None noted

**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 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  
EU: Chesterton International GmbH, Am Lenzenfleck 23,  
D85737 Ismaning, Germany – Tel. +49-89-996-5460

#### 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 Regulation (EC) No 1272/2008 [CLP] / 29 CFR 1910.1200 / WHMIS 2015 / Safe Work Australia / GHS

Skin irritation, Category 2, H315  
Skin sensitization, Category 1, H317  
Eye irritation, Category 2, H319  
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. The final cured material is considered nonhazardous.

#### 2.2. Label elements

**Labelling according to Regulation (EC) No 1272/2008 [CLP] / 29 CFR 1910.1200 / WHMIS 2015 / Safe Work Australia / GHS**

**Hazard pictograms:**



**Signal word:** Warning

|                                  |              |  |
|----------------------------------|--------------|--|
| <b>Hazard statements:</b>        | H315         | Causes skin irritation.  |
|                                  | H317         | May cause an allergic skin reaction.   |
|                                  | H319         | Causes serious eye irritation.   |
|                                  | H412         | Harmful to aquatic life with long lasting effects.   |
| <b>Precautionary statements:</b> | P264         | Wash hands 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.  |
|                                  | P362/364     | Take off contaminated clothing and wash it before reuse.   |
|                                  | P333/313     | If skin irritation or rash occurs: Get medical advice/attention.   |
|                                  | P305/351/338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
|                                  | P337/313     | If eye irritation persists: Get medical advice/attention.  |
|                                  | P501         | Dispose of contents/container to an approved waste disposal plant.   |
| <b>Supplemental information:</b> | None         |  |

**2.3. Other hazards**

None known

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2. Mixtures**

| Hazardous Ingredients <sup>1</sup>                  | % Wt.     | CAS No./<br>EC No.       | REACH<br>Reg. No. | CLP/GHS Classification   | SCL, M-factor, ATE   |
|---|-----------|--------------------------|-------------------|--|--|
| Epoxy resin (number average molecular weight ≤ 700) | 10 - < 25 | 1675-54-3 *<br>216-823-5 | NA                | Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Eye Irrit. 2, H319<br>Aquatic Chronic 2, H411 | Eye Irrit. 2A, H319:<br>C ≥ 5 %<br>Skin Irrit. 2, H315: C<br>≥ 5 %<br>ATE (oral): > 5,000<br>mg/kg<br>ATE (dermal): ><br>2,000 mg/kg |
| Other ingredients:<br>Talc (non-asbestiform)        | 30 - 60   | 14807-96-6<br>238-877-9  | NA                | Not classified**   | ATE (oral): > 5,000<br>mg/kg   |
| Silica (Quartz)                                     | 0.1 - 1   | 14808-60-7<br>238-878-4  | NA                | Not classified**   | NA   |
| Carbon black  | < 1       | 1333-86-4<br>215-609-9   | NA                | Not classified**   | ATE (oral): > 8,000<br>mg/kg   |

\* Alternative CAS No: 25068-38-6, EC No. 500-033-5

\*\*Substance with a workplace exposure limit.

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

<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)
- 1272/2008/EC, GHS, REACH
- WHMIS 2015
- Safe Work Australia

**SECTION 4: FIRST AID MEASURES****4.1. Description of first aid measures**

|                                    |  |
|------------------------------------|--|
| <b>Inhalation:</b>                 | Not applicable   |
| <b>Skin contact:</b>               | Remove contaminated clothing. Wash clothing before reuse. Wash skin with soap and water. Consult physician.  |
| <b>Eye contact:</b>                | Flush eyes for at least 15 minutes with large amounts of water. Contact physician if irritation persists.  |
| <b>Ingestion:</b>                  | Do not induce vomiting. If person is conscious, rinse mouth with water and give small quantities of water to drink. Contact physician immediately.   |
| <b>Protection of first-aiders:</b> | 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**

Irritating to eyes and skin. May cause skin sensitization as evidenced by rashes or hives.

**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****Hazardous combustion products:** Thermal decomposition may produce Carbon Monoxide, Carbon Dioxide, oxides of Sulfur and other toxic fumes.**Other hazards:** None**5.3. Advice for firefighters**

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

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

Avoid skin 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**

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 eye contact and excessive skin contact. Wash with soap and water immediately after use. Remove contaminated clothing immediately. Wash clothing before reuse. Contaminated leather including shoes cannot be decontaminated and should be discarded. Utilize exposure controls and personal protection as specified in Section 8. Avoid creating and breathing dust during removal, drilling, grinding, sawing or sanding.

**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> |                   | UK WEL <sup>3</sup> |                   | AUSTRALIA ES <sup>4</sup> |                   |
|--|-----------------------|-------------------|------------------------|-------------------|---------------------|-------------------|---------------------------|-------------------|
|  | ppm                   | mg/m <sup>3</sup> | ppm                    | mg/m <sup>3</sup> | ppm                 | mg/m <sup>3</sup> | ppm                       | mg/m <sup>3</sup> |
| Epoxy resin (number average molecular weight <= 700) | N/A                   | N/A               | N/A                    | N/A               | N/A                 | N/A               | N/A                       | N/A               |
| Talc   | 20<br>mppcf           | N/A               | (resp.)                | 2                 | (resp.)             | 1                 | (resp.)                   | 2.5               |
| Silica (Quartz) non-respirable                       | (resp.)               | 0.05              | (resp.)                | 0.025             | (resp.)             | 0.1               | (resp.)                   | 0.05              |
| Carbon black   | N/A                   | 3.5               | N/A                    | 3                 | N/A                 | 3.5<br>STEL:<br>7 | N/A                       | 3                 |

<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> EH40 Workplace exposure limits, Health & Safety Executive

<sup>4</sup> Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants

#### Biological limit values

No biological exposure limits noted for the ingredient(s).

#### Derived No Effect Level (DNEL) according to Regulation (EC) No 1907/2006:

##### Workers

| Substance  | Route of exposure | Potential health effects                       | DNEL                            |
|--|-------------------|--|---------------------------------|
| Epoxy resin (number average molecular weight <= 700) | Inhalation        | Acute effects, local / Acute effects, systemic | no data available               |
|  |                   | Chronic effects, local                         | no data available               |
|  |                   | Chronic effects, systemic                      | 4.93 mg/m <sup>3</sup> (GESTIS) |
| Talc   | Inhalation        | Chronic effects, local                         | 3.6 mg/m <sup>3</sup> (GESTIS)  |
|  |                   | Chronic effects, systemic                      | 2.16 mg/m <sup>3</sup> (GESTIS) |

#### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No 1907/2006:

Not available

## 8.2. Exposure controls

### 8.2.1. Engineering measures

No special requirements. 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.

**Protective gloves:** Chemical resistant gloves (e.g., neoprene)

**Eye and face protection:** Safety glasses

**Other:** None

### 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>                               | putty                | <b>pH</b>  | not applicable         |
| <b>Colour</b>                                       | gray and black       | <b>Kinematic viscosity</b>                               | > 10 million cps @25°C |
| <b>Odour</b>  | sweet and amine odor | <b>Solubility in water</b>                               | insoluble              |
| <b>Odour threshold</b>                              | not determined       | <b>Partition coefficient n-octanol/water (log value)</b> | not applicable         |
| <b>Boiling point or range</b>                       | not applicable       | <b>Vapour pressure @ 20°C</b>                            | 0                      |
| <b>Melting point/freezing point</b>                 | not determined       | <b>Density and/or relative density</b>                   | 2.247 kg/l             |
| <b>% Volatile (by volume)</b>                       | < 1                  | <b>Weight per volume</b>                                 | 18.75 lbs/gal.         |
| <b>Flammability</b>                                 | not applicable       | <b>Vapour density (air=1)</b>                            | > 1                    |
| <b>Lower/upper flammability or explosion limits</b> | not determined       | <b>Rate of evaporation (ether=1)</b>                     | < 1                    |
| <b>Flash point</b>                                  | none                 | <b>% Aromatics by weight</b>                             | 0                      |
| <b>Method</b>                                       | PM Closed Cup        | <b>Particle characteristics</b>                          | not applicable         |
| <b>Autoignition temperature</b>                     | not determined       | <b>Explosive properties</b>                              | not applicable         |
| <b>Decomposition temperature</b>                    | > 200°C (> 392°F)    | <b>Oxidising properties</b>                              | 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 specific data

**10.5. Incompatible materials**

No specific data

**10.6. Hazardous decomposition products**

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 / GHS**

**Primary route of exposure under normal use:** Skin and eye contact. Personnel with pre-existing skin and eye disorders and skin allergies may be aggravated by exposure.

**Acute toxicity -****Oral:**

| Substance  | Test      | Result       |
|--|-----------|--------------|
| Epoxy resin (number average molecular weight <= 700) | LD50, rat | > 5000 mg/kg |

**Dermal:**

| Substance  | Test         | Result       |
|--|--------------|--------------|
| Epoxy resin (number average molecular weight <= 700) | LD50, rabbit | > 6000 mg/kg |

**Inhalation:**

| Substance  | Test           | Result                                 |
|--|----------------|--|
| Epoxy resin (number average molecular weight <= 700) | LC50, rat, 5 h | No mortality at vapor saturation level |

**Skin corrosion/irritation:**

Irritating to skin.

| Substance  | Test                    | Result                                  |
|--|-------------------------|---|
| Epoxy resin (number average molecular weight <= 700) | Skin irritation, rabbit | Moderate irritation / Severe irritation |

**Serious eye damage/irritation:**

Irritating to eyes.

| 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 |

**Germ cell mutagenicity:**

Epoxy resin (number average molecular weight &lt;= 700): based on available data, the classification criteria are not met.

**Carcinogenicity:**

The International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) have classified inhaled silica as a human carcinogen. IARC has designated carbon black as possibly carcinogenic to humans (group 2B). The silica and carbon black in this product do not separate from the mixture or in of themselves become airborne, therefore, do not present a hazard in normal use. Epoxy resin (number average molecular weight <= 700): based on available data, the classification criteria are not met.

**Reproductive toxicity:**

Epoxy resin (number average molecular weight &lt;= 700): based on available data, the classification criteria are not met.

**STOT – single exposure:**

Not expected to cause toxicity.

**STOT – repeated exposure:** Repeated or prolonged inhalation of Talc dust may cause chronic cough, shortness of breath, scarring of the lungs (pulmonary fibrosis) and mild symptomatic pneumoconiosis. 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. The silica and talc in this product do not separate from the mixture or in of themselves become airborne, therefore, do not present a hazard in normal use. Epoxy resin (number average molecular weight  $\leq 700$ ): not expected to cause toxicity.

**Aspiration hazard:** Based on available data, the classification criteria are not met.

#### 11.2. Information on other hazards

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 organisms, may cause long-term adverse effects in the aquatic environment.

#### 12.2. Persistence and degradability

Epoxy resin: not readily biodegradable (OECD 301F, 28 days = 5%).

#### 12.3. Bioaccumulative potential

Epoxy resin: low potential for bioaccumulation. (log Kow = 2.64 – 3.78, BCF = 31).

#### 12.4. Mobility in soil

Putty. 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. Results of PBT and vPvB assessment

Not available

#### 12.6. Endocrine disrupting properties

None known

#### 12.7. 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 a properly licensed facility. 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:** 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. Maritime transport in bulk according to IMO instruments**

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. EU regulations****Authorisations under Title VII:** Not applicable**Restrictions under Title VIII:** None**Other EU regulations:** Directive 94/33/EC on the protection of young people at work.**15.1.2. National regulations****US EPA SARA TITLE III****312 Hazards:** **Chemicals subject to reporting requirements of Section 313 of EPCRA and of 40 CFR 372:**

|                    |      |
|--------------------|------|
| Skin irritation    | None |
| Skin sensitization |      |
| Eye irritation     |      |

TSCA: All chemical components are listed or exempted.

**Other national regulations:** National implementation of the EC Directive referred to in section 15.1.1.**15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

**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  
 CLP: Classification Labelling Packaging Regulation (1272/2008/EC)  
 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  
 PBT: Persistent, Bioaccumulative and Toxic substance  
 (Q)SAR: Quantitative Structure-Activity Relationship  
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (1907/2006/EC)  
 REL: Recommended Exposure Limit  
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail  
 SCL: Specific Concentration Limit  
 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  
 vPvB: very Persistent and very Bioaccumulative substance  
 WEL: Workplace Exposure Limit  
 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)  
 Swedish Chemicals Agency (KEMI)  
 U.S. National Library of Medicine Toxicology Data Network (TOXNET)

**Procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008 [CLP] / GHS:**

| Classification          | Classification procedure |
|-------------------------|--------------------------|
| Skin Irrit. 2, H315     | Calculation method       |
| Skin Sens. 1, H317      | Calculation method       |
| Eye Irrit. 2, H319      | Calculation method       |
| Aquatic Chronic 3, H412 | Calculation method       |

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

**Hazard pictogram names:** Exclamation mark

**Further information:** None

**Date of last revision:** 18 January 2023

**Changes to the SDS in this revision:** Sections 1.1, 1.2, 2.1, 3, 4.1, 5.2, 8.1, 9.1, 12.6, 15.1.2, 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.