

SAFETY DATA SHEET

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

Revision date: 5 December 2023

Date of previous issue: 18 January 2023

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): S65S-RTWU-E2QD-DCCY

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
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
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

Hazard statements:	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.
Precautionary statements:	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.
Supplemental information:	None	

2.3. Other hazards

None known

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

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

¹ 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**

Inhalation:	Not applicable
Skin contact:	Remove contaminated clothing. Wash clothing before reuse. Wash skin with soap and water. Consult physician.
Eye contact:	Flush eyes for at least 15 minutes with large amounts of water. Contact physician if irritation persists.
Ingestion:	Do not induce vomiting. If person is conscious, rinse mouth with water and give small quantities of water to drink. 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 8.2.2 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 ¹		ACGIH TLV ²		UK WEL ³		AUSTRALIA ES ⁴	
	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
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 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 STEL: 7	N/A	3

¹ United States Occupational Health & Safety Administration permissible exposure limits

² American Conference of Governmental Industrial Hygienists threshold limit values

³ EH40 Workplace exposure limits, Health & Safety Executive

⁴ 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 ³ (GESTIS)
Talc	Inhalation	Chronic effects, local	3.6 mg/m ³ (GESTIS)
		Chronic effects, systemic	2.16 mg/m ³ (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

Physical state	putty	pH	not applicable
Colour	gray and black	Kinematic viscosity	> 10 million cps @25°C
Odour	sweet and amine odor	Solubility in water	insoluble
Odour threshold	not determined	Partition coefficient n-octanol/water (log value)	not applicable
Boiling point or range	not applicable	Vapour pressure @ 20°C	0
Melting point/freezing point	not determined	Density and/or relative density	2.247 kg/l
% Volatile (by volume)	< 1	Weight per volume	18.75 lbs/gal.
Flammability	not applicable	Vapour density (air=1)	> 1
Lower/upper flammability or explosion limits	not determined	Rate of evaporation (ether=1)	< 1
Flash point	none	% Aromatics by weight	0
Method	PM Closed Cup	Particle characteristics	not applicable
Autoignition temperature	not determined	Explosive properties	not applicable
Decomposition temperature	> 200°C (> 392°F)	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 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 $\leq$ 700)	LD50, rat	> 5000 mg/kg

Dermal:

Substance	Test	Result
Epoxy resin (number average molecular weight $\leq$ 700)	LD50, rabbit	> 6000 mg/kg

Inhalation:

Substance	Test	Result
Epoxy resin (number average molecular weight $\leq$ 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 $\leq$ 700)	Skin irritation, rabbit	Moderate irritation / Severe irritation

Serious eye damage/irritation:

Irritating to eyes.

Substance	Test	Result
Epoxy resin (number average molecular weight $\leq$ 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 $\leq$ 700)	Skin sensitization, guinea pig	Sensitizing

Germ cell mutagenicity:Epoxy resin (number average molecular weight $\leq$ 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 $\leq$ 700): based on available data, the classification criteria are not met.

Reproductive toxicity:Epoxy resin (number average molecular weight $\leq$ 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 ≤ 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. ($\log K_{ow} = 2.64 - 3.78$, 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.

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: 5 December 2023

Changes to the SDS in this revision: Section 1.1.

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.