

SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200 / WHMIS 2015 / GHS

Revision date: 7 March 2018

Initial date of issue: 13 July 2007

SDS No. 410A-7

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

1.1. Product identifier

ARC S1HB (Part A) (LT GY)

1.2. Relevant identified uses of the substance or mixture and uses advised against

For use as a high build coating on properly prepared surfaces where mild chemical and abrasion exposures are anticipated.

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
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.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements:	P260	Do not breathe mist/spray.
	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.
	P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P333/313	If skin irritation or rash occurs: Get medical advice/attention.
	P337/313	If eye irritation persists: Get medical advice/attention.
	P362/364	Take off contaminated clothing and wash it before reuse.
	P391	Collect spillage.
	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 and Part B.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous Ingredients ¹	% Wt.	CAS No./ EC No.	GHS Classification
Epoxy resin (number average molecular weight <= 700)	45-55	25068-38-6 28064-14-4	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Other ingredients:			
Silica (Quartz)	1-5	14808-60-7	Not classified*
Titanium dioxide	1-5	13463-67-7	Not classified*

*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), California Proposition 65
• 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 immediately.
Skin contact:	Remove contaminated clothing. Wash skin with soap and water. Consult physician if irritation develops.
Eye contact:	Flush eyes for at least 15 minutes with large amounts of water. Consult physician if irritation develops.
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. Do not breathe mist/spray. 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 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: High volume water jet

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can form aldehydes, acids or 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:

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

Contain spill to a small area. Pick up with absorbent material (sand, sawdust, clay, etc.) and place in 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**

Utilize exposure controls and personal protection as specified in Section 8. Wash thoroughly after handling. Avoid breathing mist/spray. Remove contaminated clothing immediately. Wash clothing before reuse. Contaminated leather including shoes cannot be decontaminated and should be discarded. 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. Keep from freezing.

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)	–	–	–	–	–	–
Silica (Quartz)	(resp.)	0.05	(resp.)	0.025	(resp.)	0.1
	(total)	0.3				
Titanium dioxide	(total)	15	–	10	–	10

¹ United States Occupational Health & Safety Administration permissible exposure limits

² American Conference of Governmental Industrial Hygienists threshold limit values

³ Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment [NOHSC:1003]

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

Provide sufficient ventilation to keep the vapor concentrations below the exposure limits. 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. During spraying, wear suitable respiratory equipment.

Protective gloves: Chemical resistant gloves (e.g., butyl rubber, nitrile)

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	liquid	Odour	sweet odor
Colour	light gray	Odour threshold	not determined
Initial boiling point	not determined	Vapour pressure @ 20°C	not determined
Melting point	not determined	% Aromatics by weight	None
% Volatile (by volume)	0%	pH	not applicable
Flash point	103°C (218°F)	Relative density	1.57 kg/l
Method	PM Closed Cup	Weight per volume	13.1 lbs/gal.
Viscosity	100K cps @ 25°C	Coefficient (water/oil)	< 1
Autoignition temperature	not determined	Vapour density (air=1)	> 1
Decomposition temperature	not determined	Rate of evaporation (ether=1)	< 1
Upper/lower flammability or explosive limits	not determined	Solubility in water	insoluble
Flammability (solid, gas)	not applicable	Oxidising properties	not determined
Explosive properties	not determined		

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

Heat above 149°C (300°F).

10.5. Incompatible materials

Strong mineral acids and bases, strong organic bases and strong oxidizers like liquid Chlorine and concentrated Oxygen.

10.6. Hazardous decomposition products

Carbon Monoxide, aldehydes, acids and other toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

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

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LD50, rat	> 5000 mg/kg
Titanium dioxide	LD50, rat	> 10000 mg/kg

Dermal:

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LD50, rabbit	> 2000 mg/kg
Titanium dioxide	LD50, rabbit	> 10000 mg/kg

Inhalation:

Substance	Test	Result
Epoxy resin (CAS no. 25068-38-6)	LC0, rat, 5-8 hours	No mortality at vapor saturation level
Titanium dioxide	LC50, rat, 4 hours	> 6.82 mg/l

Skin corrosion/irritation:

Causes skin irritation.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Skin irritation, rabbit	Moderate irritation
Titanium dioxide	Skin irritation, rabbit	Not irritating

Serious eye damage/irritation:

Causes serious eye irritation.

Substance	Test	Result
Epoxy resin (CAS no. 25068-38-6)	Eye irritation, rabbit	Moderate irritation
Titanium dioxide	Eye irritation, rabbit	Not irritating

Respiratory or skin sensitisation:

May cause an allergic skin reaction.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Skin sensitization, guinea pig	Sensitizing
Titanium dioxide	Skin sensitization, guinea pig	Not sensitizing

Germ cell mutagenicity:

Epoxy resin (number average molecular weight <= 700), Titanium dioxide: 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 inhaled titanium dioxide as possibly carcinogenic to humans (group 2B). The silica and titanium dioxide 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 <= 700), Titanium dioxide: based on available data, the classification criteria are not met.

STOT – single exposure:

Epoxy resin (number average molecular weight <= 700), Titanium dioxide: based on available data, the classification criteria are not met.

STOT – repeated exposure:

Epoxy resin (number average molecular weight <= 700), Titanium dioxide: based on available data, the classification criteria are not met. 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 in this product does not separate from the mixture or in of itself become air-borne, therefore it does not present a hazard in normal use.

Aspiration hazard:

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

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

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Epoxy resin (number average molecular weight <= 700): moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/l in the most sensitive species); chronic NOEC, 21 days, Daphnia magna (OECD 211): 0.3 mg/l.

12.2. Persistence and degradability

Unreacted components (Parts A and B), improperly released to the environment, can cause ground and water pollution. Epoxy resin: not readily biodegradable. Silica, Titanium dioxide, Aluminum oxide: inorganic substances.

12.3. Bioaccumulative potential

Epoxy resin: bioconcentration factor ≤ 31 (QSAR), Octanol/water partition coefficient (log Kow) = 2.64-3.78, low potential for bioaccumulation.

12.4. Mobility in soil

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 (Log K_{oc} ≤ 3.65).

12.5. 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. May be incinerated at an appropriate facility. The unhardened product is classified as a hazardous waste according to 2008/98/EC. 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
313 Chemicals: None

Other national regulations: None

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	Bridging principle "Dilution"
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.
H411: Toxic to aquatic life with long lasting effects.

Hazard pictogram names: Exclamation mark, environment.

Changes to the SDS in this revision: Sections 1.3, 1.4, 2.1, 2.2, 3, 4.1, 5.3, 7.1, 8.1, 12.2, 12.3, 15.1, 16.

Revision date: 7 March 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.