

SAFETY DATA SHEET

in accordance with 29 CFR 1910.1200 / WHMIS 2015 / GHS

Revision date: 28 June 2019

Initial date of issue: 13 July 2007

SDS No. 410B-6

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

1.1. Product identifier

ARC S1HB (Part B)

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

Acute toxicity, Category 4, H302
Skin corrosion, Category 1C, H314
Serious eye damage, Category 1, H318
Skin sensitization, Category 1, H317
Specific target organ toxicity – repeated exposure, Category 2, H373 (oral)
Hazardous to the aquatic environment, Acute, Category 1, H400
Hazardous to the aquatic environment, Chronic, Category 1, H410

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:	H302 H314 H317 H373 H410	Harmful if swallowed. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure if swallowed. Very toxic to aquatic life with long lasting effects.
Precautionary statements:	P260 P264 P270 P272 P273 P280 P303/361/353 P304/340 P305/351/338 P301/330/331 P310 P314 P363 P391 P405 P501	Do not breathe mist/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/clothing and eye/face protection. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. Get medical advice/attention if you feel unwell. Wash contaminated clothing before reuse. Collect spillage. Store locked up. 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./	GHS Classification
Methyleneoxide, polymer with benzenamine, hydrogenated	20-50	135108-88-2	Acute Tox. 4, H302 Skin Corr. 1C, H314 Skin Sens. 1, H317 STOT RE 2, H373 (oral) Aquatic Chronic 3, H412
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	25-30	68953-36-6	Skin Corr. 1C, H314 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M-factor 10) Aquatic Chronic 1, H410 (M-factor 1)
Benzyl alcohol	10-20	100-51-6	Acute Tox. 4, H302, H332 Eye Irrit. 2, H319
Tetraethylenepentamine	5-10	112-57-2	Acute Tox. 4, H302, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 2, H411
N-(3-(trimethoxysilyl)propyl)ethylenediamine	0.1-0.9	1760-24-3	Acute Tox. 4, H332 Eye Dam. 1, H318 Skin Sens. 1, H317
Other ingredients: Silica (Quartz)	1-3	14808-60-7	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:** Remove to fresh air. If not breathing, administer artificial respiration. Contact physician.
- Skin contact:** Flood area with water while removing contaminated clothing. Wash clothing before reuse. Consult physician.
- Eye contact:** Flush eyes for at least 30 minutes with large amounts of water. Contact physician.
- Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side. 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. See section 8.2.2 for recommendations on personal protective equipment.

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

Irritating to skin. Risk of serious damage to eyes. High vapor concentrations and mist can cause severe eye and respiratory tract irritation, headache, dizziness, nausea and possibly shortness of breath. Harmful if swallowed. Repeated contact may cause skin sensitization or an allergic reaction.

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: Carbon dioxide, dry chemical, foam or water fog

Unsuitable extinguishing media: No data available

5.2. Special hazards arising from the substance or mixture

May generate: ammonia gas, toxic nitrogen oxide gases. Incomplete combustion may form carbon monoxide. Use of water may result in the formation of very toxic aqueous solutions.

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**

Evacuate area. Provide adequate ventilation. 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. Flush final traces of spill with water.

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. Do not breathe mist/spray. Do not contaminate with sodium nitrite or other nitrosating agents, which could cause the formation of cancer-causing nitrosamine. 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. Do not eat, drink or smoke when using this product.

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
Methyleneoxide, polymer with benzenamine, hydrogenated	–	–	–	–	–	–
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	–	–	–	–	–	–
Benzyl alcohol	–	–	–	–	–	–
Tetraethylenepentamine	–	–	–	–	–	–
N-(3-(trimethoxysilyl)propyl)ethylenedia mine	–	–	–	–	–	–
Silica (Quartz)	(resp.) (total)	0.05 0.3	(resp.)	0.025	–	0.1

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**

Provide sufficient ventilation to keep the 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., natural rubber, nitrile rubber, neoprene or 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	paste	Odour	amine
Colour	tan	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	122°C (252°F)	Relative density	1.25 kg/l
Method	component data	Weight per volume	10.39 lbs/gal.
Viscosity	8000 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	slightly soluble
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

Open flames and high temperatures.

10.5. Incompatible materials

Strong acids and strong oxidizers like liquid Chlorine and concentrated Oxygen. Reactive metals. Materials reactive with hydroxyl compounds.

10.6. Hazardous decomposition products

Nitric acid, NO_x, Ammonia, Carbon Monoxide, Carbon Dioxide, nitrosamines 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 allergies, eczema or skin conditions may be aggravated by exposure.

Acute toxicity -**Oral:**

Harmful if swallowed. ATE-mix = 798.6 mg/kg.

Substance	Test	Result
Methyleneoxide, polymer with benzenamine, hydrogenated	LD50, rat	449 mg/kg
Benzyl alcohol	LD50, rat	1230 mg/kg
Tetraethylenepentamine	LD50, rat	1400 mg/kg (read-across)
N-(3-(trimethoxysilyl)propyl)ethylenediamine	LD50, rat	2413 mg/kg

Dermal:

ATE-mix = 2929 mg/kg

Substance	Test	Result
Benzyl alcohol	LD50, rabbit	2000 mg/kg
Tetraethylenepentamine	LD50, rabbit	660 mg/kg
N-(3-(trimethoxysilyl)propyl)ethylenediamine	LD50, rabbit	2009 mg/kg
Methyleneoxide, polymer with benzenamine, hydrogenated	LD50, rabbit	2673 mg/kg

Inhalation:

High vapor concentrations and mist can cause severe eye and respiratory tract irritation, headache, dizziness, nausea and possibly shortness of breath. ATE-mix = 64.4 mg/l (vapor), > 5 mg/l (mist).

Substance	Test	Result
Benzyl alcohol	LC50, rat	> 4.178 mg/l (mist)
Benzyl alcohol	LC50, rat	11 mg/l (vapor, ATE)
N-(3-(trimethoxysilyl)propyl)ethylenediamine	LC50, rat	> 1.49 mg/l (mist)

Skin corrosion/irritation:

Causes skin burns.

Serious eye damage/irritation:

Risk of serious damage to eyes.

Substance	Test	Result
Tetraethylenepentamine	Eye irritation, rabbit	Corrosive

Respiratory or skin sensitisation:

Repeated contact may cause skin sensitization or an allergic reaction.

Germ cell mutagenicity:	Benzyl alcohol, Fatty acids, tall-oil, reaction products with tetraethylenepentamine: not expected to be a germ cell mutagen. Tetraethylenepentamine – Ames test: positive. N-(3-(trimethoxysilyl)propyl)ethylenediamine: based on available data, the classification criteria are not met.
Carcinogenicity:	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 International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) have classified inhaled silica as a human carcinogen. 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.
Reproductive toxicity:	Fatty acids, tall-oil, reaction products with tetraethylenepentamine, N-(3-(trimethoxysilyl)propyl)ethylenediamine: not expected to be reproductive toxicants. Tetraethylenepentamine: inconclusive.
STOT – single exposure:	Fatty acids, tall-oil, reaction products with tetraethylenepentamine: not expected to cause organ damage from a single exposure. Tetraethylenepentamine, N-(3-(trimethoxysilyl)propyl)ethylenediamine: data lacking.
STOT – repeated exposure:	May cause damage to organs through prolonged or repeated exposure if swallowed. Fatty acids, tall-oil, reaction products with tetraethylenepentamine, Tetraethylenepentamine, N-(3-(trimethoxysilyl)propyl)ethylenediamine: not expected to cause organ damage from prolonged or repeated exposure.
Aspiration hazard:	Not classified as an aspiration toxicant. 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.
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

Substance	Test	Result
Methyleneoxide, polymer with benzenamine, hydrogenated	96 h LC50 (Poecilia reticulata)	63 mg/l
Benzyl alcohol	96 h LC50 (Fathead minnow)	460 mg/l
Methyleneoxide, polymer with benzenamine, hydrogenated	48 h EC50 (for daphnia)	15.4 mg/l
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	48 h EC50 (for daphnia)	0.1 mg/l
Methyleneoxide, polymer with benzenamine, hydrogenated	72 h ErC50 (for algae)	43.9 mg/l
Benzyl alcohol	72 h IC50 (for algae)	700 mg/l
Methyleneoxide, polymer with benzenamine, hydrogenated	3 h EC50 (activated sludge)	187 mg/l

12.2. Persistence and degradability

Tetraethylenepentamine: expected to be resistant to biodegradation. Benzyl alcohol: readily biodegradable. N-(3-(trimethoxysilyl)propyl)ethylenediamine: hydrolyzes in water or moist air, releasing methanol and organosilicons; biodegradation 50% (OECD 301A 28 days).

12.3. Bioaccumulative potential

Methyleneoxide, polymer with benzenamine, hydrogenated, Tetraethylenepentamine, N-(3-(trimethoxysilyl)propyl)ethylenediamine: bioconcentration in aquatic organisms is not expected to be significant. Tetraethylenepentamine: log Kow < 1. Benzyl alcohol: low potential for bioaccumulation (log Kow = 1.1).

12.4. Mobility in soil

Paste. Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). Benzyl alcohol: expected to have very high mobility in soils. Tetraethylenepentamine: expected to have high mobility in soils.

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 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**

ADG/ADR/RID/ADN/IMDG/ICAO: UN2735
TDG: UN2735
US DOT: UN2735

14.2. UN proper shipping name

ADG/ADR/RID/ADN/IMDG/ICAO: AMINES, LIQUID, CORROSIVE, N.O.S.
(POLYAMIDOAMINES / CYCLOALIPHATIC AMINES)
TDG: AMINES, LIQUID, CORROSIVE, N.O.S.
(POLYAMIDOAMINE / CYCLOALIPHATIC AMINES))
US DOT: AMINES, LIQUID, CORROSIVE, N.O.S.
(POLYAMIDOAMINE / CYCLOALIPHATIC AMINES)

14.3. Transport hazard class(es)

ADG/ADR/RID/ADN/IMDG/ICAO: 8
TDG: 8
US DOT: 8

14.4. Packing group

ADG/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: May be shipped as Limited Quantities in packaging having a rated capacity gross weight of 66 lb. or less and in inner packages not over 5 Liter (49 CFR 173.154 (b,2) ERG NO. 153

IMDG: EmS F-A, S-B, IMDG segregation group 18-Alkalis

ADR: Classification code C7, Tunnel restriction code (E)

ADG HAZCHEM CODE: 2X **HIN:** 88/80

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:**

Acute toxicity
Skin corrosion
Serious eye damage
Skin sensitization
Specific target organ toxicity – repeated exposure

313 Chemicals:

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
Acute Tox. 4, H302	Calculation method
Skin Corr. 1C, H314	Calculation method
Eye Dam. 1, H318	Calculation method
STOT RE 2, H373 (oral)	Calculation method
Skin Sens. 1, H317	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 1, H410	Calculation method

Relevant H-statements: H302: Harmful if swallowed.
 H312: Harmful in contact with skin.
 H314: Causes severe skin burns and eye damage.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H318: Causes serious eye damage.
 H319: Causes serious eye irritation.
 H332: Harmful if inhaled.
 H373: May cause damage to organs through prolonged or repeated exposure.
 H400: Very toxic to aquatic life.
 H410: Very toxic to aquatic life with long lasting effects.
 H411: Toxic to aquatic life with long lasting effects.
 H412: Harmful to aquatic life with long lasting effects.

Hazard pictogram names: Corrosion, exclamation mark, health hazard, environment

Further information: None

Date of last revision: 28 June 2019

Changes to the SDS in this revision: Complete change to represent new formulation.

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.