

SAFETY DATA SHEET

in accordance with 1907/2006/EC (REACH, as amended by 453/2010/EC) 29 CFR 1910.1200 and WHMIS 2015

Revision date: 26 April 2018 **Initial date of issue:** 13 July 2007 **SDS No.** 425B-4a

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

1.1. Product identifier

ARC S1PW (Part B)

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

This is a NSF-certified potable water, abrasion resistant coating.

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
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)

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 / GHS

Eye Dam. 1, H318
Skin Irrit. 2, H315
Skin Sens. 1A, H317
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

2.1.2. Classification according to WHMIS 1988

E: Corrosive materials; D2A: Very toxic materials causing other effects; D2B: Toxic materials causing other effects
DSL: Included on Inventory

2.1.3. Australian statement of hazardous nature

Hazardous according to criteria of Safe Work Australia.

2.1.4. Additional information

For full text of H-statements: see SECTIONS 2.2 and 16.

2.2. Label elements

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

Hazard pictograms:



Signal word:

Danger

| | | |
|----------------------------------|--------------|--|
| Hazard statements: | H318 | Causes serious eye damage. |
| | H315 | Causes skin irritation. |
| | H317 | May cause an allergic skin reaction. |
| | H410 | Very toxic to aquatic life with long lasting effects. |
| Precautionary statements: | P261 | Avoid breathing mist/spray. |
| | P280 | Wear protective gloves and eye/face protection. |
| | P305/351/338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| | P310 | Immediately call a POISON CENTER or doctor/physician. |
| | P333/313 | If skin irritation or rash occurs: Get medical advice/attention. |
| | P362/364 | Take off contaminated clothing and wash it before reuse. |
| 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. | REACH Reg. No. | CLP/GHS Classification |
|--|---------|-------------------------|------------------------|---|
| Fatty acids, tall-oil, reaction products with tetraethylenepentamine | 50-61 | 68953-36-6 273-201-6 | 01-211948 7006-38* | Skin Corr. 1C, H314 Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M-factor 10) Aquatic Chronic 1, H410 (M-factor 1) |
| Tetraethylenepentamine | 5-10 | 112-57-2 203- 986-2 | 01-211948 7290-37** | Acute Tox. 4, H302/312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 2, H411 |
| N-(3-(trimethoxysilyl)propyl)ethylenediamine | 0.1-0.5 | 1760-24-3 217-164-6 | 01-21199 70215-39 | Acute Tox. 4, H332 Eye Dam. 1, H318 Skin Sens. 1, H317 |

| | | | | |
|---------------------------------------|-----|-------------------------|----|-------------------|
| Other ingredients: Silica (Quartz) | 1-5 | 14808-60-7 238-878-4 | NA | Not classified*** |
|---------------------------------------|-----|-------------------------|----|-------------------|

*Covered by CAS # 1226892-45-0

**Covered by CAS # 90640-66-7

***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
* 1272/2008/EC, REACH
* WHMIS 2015
* Safe Work Australia [NOHSC: 1008 (2004)]

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: | Remove contaminated clothing. Wash skin with soap and water. Wash clothing before reuse. Consult physician. |
| Eye contact: | Flush eyes for at least 30 minutes with large amounts of water. Contact physician. |
| Ingestion: | If conscious, do not induce vomiting; drink milk or water. Contact physician immediately. |

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

May cause burns to eyes. Causes skin irritation. High vapor concentrations and mist can cause severe eye and respiratory tract irritation. Repeated contact may cause skin sensitization or an allergic reaction.

4.3. Indication of any immediate medical attention and special treatment needed

Application of corticosteroid cream has been effective in treating skin irritation.

SECTION 5: FIRE-FIGHTING MEASURES**5.1. Extinguishing media**

Suitable extinguishing media: Carbon Dioxide, dry chemical, foam

Unsuitable extinguishing media: No data available

5.2. Special hazards arising from the substance or mixture

Use of water may result in the formation of very toxic aqueous solutions.

5.3. Advice for firefighters

Recommend Firefighters wear self-contained breathing apparatus.

Flammability Classification: –

HAZCHEM Emergency Action Code: 3 **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.

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. Avoid breathing mist or vapor. Do not contaminate with sodium nitrite or other nitrosating agents, which could cause the formation of cancer-causing nitrosamine. Wash before eating, drinking or smoking. Remove contaminated clothing. 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

Keep container closed when not in use. 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 | | UK WEL ³ | | AUSTRALIA ES ⁴ | |
|--|-----------------------|-------------------|------------------------|-------------------|---------------------|-------------------|---------------------------|-------------------|
| | ppm | mg/m ³ | ppm | mg/m ³ | ppm | mg/m ³ | ppm | mg/m ³ |
| Fatty acids, tall-oil, reaction products with tetraethylenepentamine | – | – | – | – | – | – | – | – |
| Tetraethylenepentamine | – | – | – | – | – | – | – | – |
| N-(3-(trimethoxysilyl)propyl)ethylene diamine | – | – | – | – | – | – | – | – |
| Silica (Quartz) | (resp) | 0.1 | (resp) | 0.025 | (resp) | 0.1 | (resp) | 0.1 |

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 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., 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 | thick paste | Odour | ammonia odor |
| Colour | tan | Odour threshold | not determined |
| Initial boiling point | > 200°C (> 392°F) | Vapour pressure @ 20°C | < 20.68 |
| Melting point | not applicable | % Aromatics by weight | not determined |
| % Volatile (by volume) | 0% | pH | not applicable |
| Flash point | 195°C (383°F) | Relative density | 1.18 kg/l |
| Method | – | Weight per volume | 9.84 lbs/gal. |
| Viscosity | 3000-7000 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

EPA 24: 0.28 lbs/gal. (1.18 kg/l)

SECTION 10: STABILITY AND REACTIVITY**10.1. Reactivity**

Refer to sections 10.3 and 10.5.

10.2. Chemical stability

Stable under normal conditions.

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.

10.6. Hazardous decomposition products

Nitric acid, NOx, 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 asthma, chronic respiratory disease and skin and eye conditions are generally aggravated by exposure.

Acute toxicity -

Oral: Based on available data on components, the classification criteria are not met. ATE-mix = 7092 mg/kg.

| Substance | Test | Result |
|--|-----------|------------|
| Tetraethylenepentamine | LD50, rat | 2100 mg/kg |
| N-(3-(trimethoxysilyl)propyl)ethylenediamine | LD50, rat | 2413 mg/kg |

Dermal: Based on available data on components, the classification criteria are not met. ATE-mix = 12765 mg/kg.

| Substance | Test | Result |
|--|--------------|------------|
| Tetraethylenepentamine | LD50, rabbit | 660 mg/kg |
| N-(3-(trimethoxysilyl)propyl)ethylenediamine | LD50, rabbit | 2009 mg/kg |

Inhalation: High vapor concentrations and mist can cause severe eye and respiratory tract irritation.

| Substance | Test | Result |
|--|-----------|--------------------|
| N-(3-(trimethoxysilyl)propyl)ethylenediamine | LC50, rat | > 1.49 mg/l (mist) |

Skin corrosion/irritation: Causes skin irritation.

| Substance | Test | Result |
|-------------------|----------|---------------|
| ARC S1PW (Part B) | OECD 435 | Non-corrosive |

Serious eye damage/irritation: May cause burns to eyes.

| Substance | Test | Result |
|------------------------|------------------------|-----------|
| Tetraethylenepentamine | Eye irritation, rabbit | Corrosive |

Respiratory or skin sensitisation: May cause an allergic skin reaction.

Germ cell mutagenicity: 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: 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: 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. 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: Not expected to be an aspiration toxicant based on viscosity.

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

Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability

Tetraethylenepentamine: expected to be resistant to biodegradation. 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

Tetraethylenepentamine: not expected to bioaccumulate (log Kow < 1). N-(3-(trimethoxysilyl)propyl)ethylenediamine: not expected to bioaccumulate.

12.4. Mobility in soil

Paste. Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). Tetraethylenepentamine: expected to be highly mobile in soil.

12.5. Results of PBT and vPvB assessment

Not available

12.6. Other adverse effects

None known

SECTION 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Unreacted components are a special waste. 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. This product is classified as a hazardous waste according to 2008/98/EC.

European List of Wastes code: 08 04 09

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. (TETRAETHYLENEPENTAMINE) |
| TDG: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TETRAETHYLENEPENTAMINE) |
| US DOT: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TETRAETHYLENEPENTAMINE) |

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. 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 | | Hazardous Materials Identification System (HMIS) | |
|-----------------------|-----------------------|--|----------------------------|
| 312 Hazards: | 313 Chemicals: | 4 = Severe Hazard | HEALTH |
| Immediate | None | 3 = Serious Hazard | FLAMMABILITY |
| Delayed | | 2 = Moderate Hazard | PHYSICAL HAZARD |
| | | 1 = Slight Hazard | Personal Protection |
| | | 0 = Minimal Hazard | |
| | | * = See Section 8 | |

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: | 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 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 NOAEL: No Observed Adverse Effect Level 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) 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) 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 de la santé et de la sécurité du travail (CSST) Chemical Classification and Information Database (CCID) European Chemicals Agency (ECHA) - Information on Chemicals Hazardous Substances Information System (HSIS) 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 |
|-------------------------|-------------------------------|
| Eye Dam. 1, H318 | Calculation method |
| Skin Irrit. 2, H315 | Calculation method |
| Skin Sens. 1A, H317 | Bridging principle "Dilution" |
| 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.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H332: Harmful if inhaled.
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.

Hazard pictogram names: Corrosion, exclamation mark, environment

Changes to the SDS in this revision: Section 1.3.

Revision date: 26 April 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.