

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 2023Date of previous issue:29 August 2023SDS No.425B-6
SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
1.1. Product identifier
ARC S1PW (Part B), ARC S1PWHB (Part B)
Unique Formula Identifier (UFI): 8KH6-XRGF-5894-FA1Y
1.2. Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses: Potable water, erosion/corrosion resistant coating.
Uses advised against: No information available
Reason why uses advised against: Not applicable
1.3. Details of the supplier of the safety data sheet
Company: Supplier:
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: <u>www.chesterton.com</u> E-mail (SDS guestions): ProductSDSs@chesterton.com
E-mail (obo questions). <u>Froudeobos@chesterton.com</u> E-mail: customer.service@chesterton.com
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
Serious eye damage, Category 1, H318
Skin irritation, Category 2, H315
Skin sensitization, Category 1, H317
Hazardous to the aquatic environment, Acute, Category 1, H400 Hazardous to the aquatic environment, Chronic, Category 1, H410
2.1.2. 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 / Safe Work Australia / GHS
Hazard pictograms:
Signal word: Danger

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Hazard statements:	H318 H315 H317 H410	Causes serious eye damage. Causes skin irritation. May cause an allergic skin reaction. Very toxic to aquatic life with long lasting effects.
Precautionary statements:	P261 P264 P272 P273 P302/352 P305/351/338 P310 P333/313 P362/364 P391 P501	Avoid breathing mist/vapours. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves and eye/face protection. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Collect spillage. Dispose of contents/container to an approved waste disposal plant.
Supplemental information:	None	

Supplemental information:

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/INFORMA	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
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	50-61	68953-36-6 273-201-6	NA	Skin Corr. 1C, H314 Skin Sens. 1A, H317 Aquatic Acute 1, H400 (M-factor 10) Aquatic Chronic 1, H410 (M-factor 1)	NA
Tetraethylenepentamine	5-10	112-57-2 203-986-2	NA	Acute Tox. 4, H302/312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 2, H411	ATE (oral): 500 mg/kg ATE (dermal): 660 mg/kg
N-(3- (trimethoxysilyl)propyl)ethylenediamine	0.1-0.5	1760-24-3 217-164-6	NA	Acute Tox. 4, H332 Eye Dam. 1, H318 Skin Sens. 1B, H317 STOT RE 2, H373 (respiratory system, inhalation)	ATE (oral): 2,413 mg/kg ATE (dermal): 2009 mg/kg ATE (inhalation, vapour): 95.6 mg/l ATE (inhalation, mist): 1.5 mg/l
Other ingredients:					
Silica (Quartz)	1-5	14808-60-7 238-878-4	NA	Not classified*	NA
*Substance with a workplace exposure lir For full text of H-statements: see SECTIC					
¹ Classified according to: • 29 CFR 1910.1200 • 1272/2008/EC, GH • WHMIS 2015 • Safe Work Australi	IS, REACH	6, 1917, Mass. Riç	ght-to-Know La	aw (ch. 40, M.G.LO. 111F)	

Date. 5 Decemb	51 2023		3D3 NO. 423B-0	
SECTION 4: FIR	ST AID ME	ASURES		
4.1. Description				
Inhalation:	Remove to	o fresh air. If not breathing, administer artificial respiration. Contact physician.		
Skin contact:	Remove co physician.	contaminated clothing. Wash skin with soap and water. Wash clothing before re	use. Consult	
Eye contact:	Flush eyes	s for at least 30 minutes with large amounts of water. Contact physician.		
Ingestion:	If consciou	us, do not induce vomiting; drink milk or water. Contact physician immediately.		
Protection of firs	st-aiders:	No action shall be taken involving any personal risk or without suitable training the product while providing aid to the victim. Do not breathe mist. See section recommendations on personal protective equipment.		
4.2. Most import	ant sympto	oms and effects, both acute and delayed		
		auses skin irritation. High vapor concentrations and mist can cause severe eye nay cause skin sensitization or an allergic reaction.	and respiratory tract	
4.3. Indication of	f any immed	diate medical attention and special treatment needed		
Application of cor	ticosteroid c	cream has been effective in treating skin irritation.		
SECTION 5: FIR	EFIGHTING) MEASURES		
5.1. Extinguishir	ng media			
Suitable extingu	ishing med	lia: Carbon dioxide, dry chemical, dry sand, limestone powder, alcohol-	resistant foam	
Unsuitable extin	guishing m	nedia: No data available		
5.2. Special haza	ards arising	g from the substance or mixture		
Hazardous com	bustion pro	ducts: May generate: ammonia gas, toxic nitrogen oxide gases. Incomplet form carbon monoxide.	e combustion may	
Other hazards: Use of water may result in the formation of very toxic aqueous solutions. Do not allow runoff from firefighting to enter drains or water courses.				
5.3. Advice for fi	5.3. Advice for firefighters			
Recommend Fire	fighters wea	ar self-contained breathing apparatus.		
Australian HAZO	HEM Emer	rgency Action Code: •3 Z		
SECTION 6: AC	CIDENTAL	RELEASE MEASURES		
6.1. Personal pro	ecautions, p	protective equipment and emergency procedures		
Evacuate area. P	rovide adeq	uate ventilation. Utilize exposure controls and personal protection as specified	in Section 8.	
6.2. Environmen	tal Precauti	ions		
Keep out of sewe	rs, streams	and waterways.		
6.3. Methods an	d material fo	or containment and cleaning up		
Scoop up and tra	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: HA	NDLING AN	ND STORAGE		
7.1. Precautions				
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				
1				

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.

Date: 5 December 2023

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limit values

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Ingredients	OSHA ppm	A PEL ¹ mg/m ³	ACGII ppm	H TLV ² mg/m ³	UK V ppm	VEL ³ mg/m ³	AUSTR/ ppm	ALIA ES ⁴ mg/m ³
Fatty acids, tall-oil, reaction products with tetraethylenepentamine	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tetraethylenepentamine	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
N-(3- (trimethoxysilyl)propyl)ethylen ediamine	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Silica (Quartz)	(resp.) (total)	0.05 0.3	(resp.)	0.025	(resp.)	0.1	(resp.)	0.05

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
N-(3-	Inhalation	Chronic effects, systemic	35.3 mg/m ³
(trimethoxysilyl)propyl)ethylenediamine			-
		Chronic effects, local / Acute	No hazard
		effects, local	identified
	Dermal	Chronic effects, systemic	5 mg/kg bw/day
		Acute effects, systemic	5 mg/kg bw/day

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

Substance	Environmental protection target	PNEC
N-(3-	Fresh water	0.062 mg/l
(trimethoxysilyl)propyl)ethylenediamine		
	Freshwater sediments	0.048 mg/kg
	Water, intermittent release	0.62 mg/l
	Marine water	0.0062 mg/l
	Marine sediments	0.0048 mg/kg
	Microorganisms in sewage treatment	25 mg/l
	Soil (agricultural)	0.0075 mg/kg

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.

Refer to sections 6 and 12.			
SECTION 9: PHYSICAL AND	CHEMICAL PROPERTIES		
9.1. Information on basic phys	sical and chemical properti	es	
Physical state Colour Odour Odour threshold	thick paste tan ammonia odor not determined	pH Kinematic viscosity Solubility in water Partition coefficient	not applicable 2,500-5,900 cSt @ 25°C insoluble not applicable
Boiling point or range Melting point/freezing point % Volatile (by volume) Flammability Lower/upper flammability or explosion limits	> 200°C (> 392°F) not applicable 0% not applicable not determined	n-octanol/water (log value) Vapour pressure @ 20°C Density and/or relative density Weight per volume Vapour density (air=1) Rate of evaporation (ether=1)	< 20.68 1.18 kg/l 9.84 lbs/gal. > 1 < 1
Flash point Method Autoignition temperature Decomposition temperature	195°C (383°F) Closed Cup not determined not determined	% Aromatics by weight Particle characteristics Explosive properties Oxidising properties	not determined not applicable not determined not determined
9.2. Other information			
VOC (EPA 24): 0.28 lbs/gal. (1.1	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		se	
10.4. Conditions to avoid	and of officiations of normal u		
	uroc		
Open flames and high temperati	uico.		
10.5. Incompatible materials			
Strong acids and strong oxidizer		ncentrated Oxygen.	
10.6. Hazardous decomposition	on products		
Nitric acid, NOx, Ammonia, Cart	oon Monoxide, Carbon Dioxid	de, nitrosamines and other toxic fumes.	
SECTION 11: TOXICOLOGICA			
11.1. Information on hazard cl	asses as defined in Regula	tion (EC) No 1272/2008 / GHS	
Primary route of exposure under normal use:	Inhalation, skin and eye co	ontact. Personnel with pre-existing asthm ns are generally aggravated by exposure	
Acute toxicity -			
Oral:	Based on available data o mg/kg.	n components, the classification criteria	are not met. ATE-mix = 7,09
	Substance Tetraethylenepentamine N-(3- (trimethoxysilyl)propyl)et	Test LD50, rat LD50, rat hylenediamine	Result 2,100 mg/kg 2,413 mg/kg
Dermal:	Based on available data o 12,764 mg/kg.	n components, the classification criteria	are not met. ATE-mix =
	Substance	Test	Result
	Tetraethylenepentamine	LD50, rabbit	660 mg/kg
	N-(3- (trimethoxysilyl)propyl)etl	LD50, rabbit	> 2,000 mg/kg

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Inhalation:	High vapor concentrations and r	nist can cause severe eye and res	spiratory tract irritation.
	Substance	Test	Result
	N-(3-	LC50, rat	1.49 - 2.44 mg/l
	(trimethoxysilyl)propyl)ethylene		(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 react	ion.	
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 aspiratior	n toxicant based on viscosity.	
11.2. Information on other haz	zards		
None			

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

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12.6. Endocrine disrupting properties		
No information available		
12.7. Other adverse effects		
None known		
SECTION 13: DISPOSAL CONSIDERAT		
13.1. Waste treatment methods		
Landfill sealed containers with a properly I	e. Combine resin and curative. The final cured material is considered nonhazardous. icensed facility. May be incinerated at an appropriate facility. Check local, state and th the most stringent requirement. This product is classified as a hazardous waste	
SECTION 14: TRANSPORT INFORMAT	ION	
14.1. UN number or ID number ADG/ADR/RID/ADN/IMDG/ICAO: TDG: US DOT: 14.2. UN proper shipping name	UN3082 UN3082 UN3082	
ADG/ADR/RID/ADN/IMDG/ICAO:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TETRAETHYLENEPENTAMINE)	
TDG: US DOT:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TETRAETHYLENEPENTAMINE) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (TETRAETHYLENEPENTAMINE)	
14.3. Transport hazard class(es) ADG/ADR/RID/ADN/IMDG/ICAO: 9 TDG: 9 US DOT: 9 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. Maritime transport in bulk according to IMO instruments NOT APPLICABLE		
OR AIRCRAFT. (49 CFR 171.4(C)) IMDG: EMS. F-A, S-F MAY BE SHIPPED AS NON-RESTRIC SINGLE OR INNER PACKA ICAO/IATA: MAY BE SHIPPED AS NO PER SINGLE OR INNER PA SPECIAL PROVISIONS A19 ADR: CLASSIFICATION CODE M6 TU MAY BE SHIPPED AS NON-RESTRIC		
SECTION 15: REGULATORY INFORMA		
	regulations/legislation specific for the substance or mixture	
15.1.1. EU regulations		
•	pplicable	
Autionsations under fille vil. Not a		

Other EU regulations:	Directive 94/33/EC on the protection of young people at work. Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances (hazard category: E1, Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1; qualifying quantities: 100 t, 200 t)				
15.1.2. National regulation	ns				
US EPA SARA TITLE III					
312 Hazards:	Chemicals subject to reporting requirements of Section 313 of EPCRA and of 40 CFR 372:				
Serious eye damage Skin irritation Skin sensitization	None				
TSCA: All components are	listed or exempted.				
Other national regulation					
15.2. Chemical safety ass					
-	sment has been carried out for this substance/mixture by the supplier.				
SECTION 16: OTHER INF	ORMATION				
	Australian Dangerous Goods Code				
and acronyms: ADN: H ADR: H ADR: H ATE: A BCF: E CATPE CLP: C ES: Ex GHS: C ICAO: IMDG: LC50: LD50: LOEL: N/A: N NA: NC NOEC NOEL: OECD PBT: F (Q)SAI REAC REL: F RID: R SCL: S	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways European Agreement concerning the International Carriage of Dangerous Goods by Road Acute Toxicity Estimate Bioconcentration Factor :: Converted Acute Toxicity point Estimate Classification Labelling Packaging Regulation (1272/2008/EC) oposure Standard Globally Harmonized System International Civil Aviation Organization International Maritime Dangerous Goods Lethal Concentration to 50 % of a test population Lethal Dose to 50% of a test population Lowest Observed Effect Level Iot Applicable : No Observed Effect Concentration : No Observed Effect Level : Organization for Economic Co-operation and Development Persistent, Bioaccumulative and Toxic substance R: Quantitative Structure-Activity Relationship H: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (1907/2006/EC) Recommended Exposure Limit Regulations concerning the International Carriage of Dangerous Goods by Rail Specific Concentration Limit				
STEL: STOT STOT TDG: ⁻ TWA: US DC vPvB: WEL: WHMI	Safety Data Sheet Short Term Exposure Limit RE: Specific Target Organ Toxicity, Repeated Exposure SE: Specific Target Organ Toxicity, Single Exposure Transportation of Dangerous Goods (Canada) Time Weighted Average DT: United States Department of Transportation very Persistent and very Bioaccumulative substance Workplace Exposure Limit S: Workplace Hazardous Materials Information System abbreviations and acronyms can be looked up at <u>www.wikipedia.org</u> . 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)				

Classification	Classification procedure
Eye Dam. 1, H318	Calculation method
Skin Irrit. 2, H315	Calculation method
Skin Sens. 1, 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. 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.
Hazard pictogram names:	Corrosion, exclamation mark, environment
Further information: No	ne
Date of last revision: 5 D	December 2023
Changes to the SDS in this r	revision: Section 1.1.