

SAFETY DATA SHEET

in accordance with 1907/2006/EC (REACH, as amended by 2015/830/EU) 29 CFR 1910.1200 and WHMIS 2015

Revision date: 24 September 2020 **Initial date of issue:** 30 December 2010 **SDS No.** 392B-8b

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

1.1. Product identifier

ARC SD4i (Part B) (BLU, GY)

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

ARC Polymer Composite. This is the curative component of a two part system using ARC SD4i (Part A) and mixed to provide chemical protection for storage tanks.

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

Skin Corr. 1B, H314
Eye Dam. 1, H318
Skin Sens. 1, H317
Aquatic Chronic 3, H412

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

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

Hazard pictograms:



Signal word:

Danger

Hazard statements:

H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements:	P260	Do not breathe mist/vapours/spray.
	P280	Wear protective gloves, protective clothing and eye/face protection.
	P303/361/353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
	P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P301/330/331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
	P310	Immediately call a POISON CENTER or doctor/physician.
	P333/313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.	

Supplemental information: None

2.3. Other hazards

The safety and health hazards are detailed separately for Part A and Part B. 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
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	14-29	2855-13-2 220-666-8	01-211951 4687-32	Acute Tox. 4, H302, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Benzyl Alcohol	14-29	100-51-6 202-859-9	01-211949 2630-38	Acute Tox. 4, H332 Acute Tox. 4, H302 Eye Irrit. 2, H319 Skin Irrit. 1B, H314
3-Aminomethyl-3,5,5-trimethylcyclohexylamine, reaction products with bisphenol A diglycidyl ether homopolymer	7-19	68609-08-5 Polymer	01-211996 5165-33*	Eye Dam. 1, H318 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Other ingredients:				
Silicon carbide	30-40	409-21-2 206-991-8	NA	Not classified**
Silica (Quartz)	1-2	14808-60-7 238-878-4	NA	Not classified**

*Covered by CAS # 38294-64-3

**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: 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. Consult physician.

Ingestion: If conscious, do not induce vomiting; drink milk, water or vinegar. Contact physician immediately.

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

Direct contact will cause burns to skin, eyes and mucous membranes. High vapor concentrations may cause respiratory tract irritation. May cause allergic skin sensitization.

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 spray

Unsuitable extinguishing media: not determined

5.2. Special hazards arising from the substance or mixture

Incomplete combustion may form carbon monoxide. May generate: ammonia gas, toxic nitrogen oxide gases.

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**

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. Flush floor with dilute (5%) Acetic Acid. Collect rinsate for proper 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 all direct contact. Avoid breathing mist or vapor. Utilize exposure controls and personal protection as specified in Section 8. Remove contaminated clothing immediately. Wash clothing before reuse. Contaminated leather including shoes cannot be decontaminated and should be discarded. Contaminated work clothing should not be allowed out of the workplace. Keep container closed when not in use. 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
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	–	–	–	–	–	–	–	–
Benzyl Alcohol	–	–	–	–	–	–	–	–
Modified cycloaliphatic amine	–	–	–	–	–	–	–	–
Silicon carbide	–	15	(inhal) (resp)	10 3	(total) (resp)	10 4	(resp)	10
Silica (Quartz)	(resp) (total)	0.1 0.3	(resp)	0.025	–	0.1	–	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**

Good general mechanical ventilation and/or local exhaust. 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., nitrile rubber, butyl rubber, neoprene, 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	viscous liquid	Odour	Amine
Colour	red or blue	Odour threshold	not determined
Initial boiling point	225°C (437°F)	Vapour pressure @ 20°C	not determined
Melting point	not determined	% Aromatics by weight	None
% Volatile (by volume)	0%	pH	0%
Flash point	> 100°C (> 212°F)	Relative density	1.50 – 1.59 kg/l
Method	PM Closed Cup	Weight per volume	12.5 – 13.2 lbs/gal.
Viscosity	1500-2800 cps @ 25°C	Coefficient (water/oil)	not determined
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 applicable	Solubility in water	insoluble
Flammability (solid, gas)	not applicable	Oxidising properties	not determined
Explosive 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

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

Carbon Monoxide, Carbon Dioxide, NOx, aldehydes 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: Based on available data on components, the classification criteria are not met. ATE-mix oral: = 2582.2 mg/kg.

Substance	Test	Result
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	LD50, rat	1030 mg/kg
Benzyl Alcohol	LD50, rat	1230 mg/kg
3-Aminomethyl-3,5,5-trimethylcyclohexylamine, reaction products with bisphenol A diglycidyl ether homopolymer	LD50, rat	3100 mg/kg
Silicon carbide	NOEL, rat	2000 mg/kg

Dermal: Based on available data on components, the classification criteria are not met. ATE-mix: 4752.7 mg/kg.

Substance	Test	Result
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	LD50, rat	> 1840 mg/kg
Benzyl Alcohol	LD50, rat	2000 mg/kg
Silicon carbide	NOEL, rat	2000 mg/kg

Inhalation: Based on available data on components, the classification criteria are not met. ATE-mix: 14.86 mg/l (aerosol/mist); 39.12 mg/l (vapor). High vapor concentrations may cause respiratory tract irritation.

Substance	Test	Result
Benzyl Alcohol	LC50, rat, 4 h	> 4.178 mg/l (aerosol/mist) 11 mg/l (vapor)
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	LC50, rat, 4 h	> 5.01 mg/l (213B, analytical)

Skin corrosion/irritation: Causes burns.

Substance	Test	Result
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	Skin irritation, rabbit	Corrosive

Serious eye damage/irritation: Causes serious eye damage.

Substance	Test	Result
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	Eye irritation, rabbit (OECD 405)	Corrosive

Respiratory or skin sensitisation: May cause allergic skin sensitization.

Substance	Test	Result
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	Skin sensitization, guinea pig (OECD 406)	Sensitizing

Germ cell mutagenicity: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine, Benzyl Alcohol: 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: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine: developmental NOAEL > 250 mg/kg/day; maternal NOEL = 50 mg/kg/day.

STOT-single exposure: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine: Based on available data, the classification criteria are not met.

STOT-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. 3-Aminomethyl-3,5,5-trimethylcyclohexylamine, 90-day oral subchronic study, OECD 408: NOEL = 59 mg/kg/day (male), 62 mg/kg/day (female).

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

3-Aminomethyl-3,5,5-trimethylcyclohexylamine is harmful to aquatic organisms.

12.2. Persistence and degradability

3-Aminomethyl-3,5,5-trimethylcyclohexylamine: biodegradable. Benzyl Alcohol: expected to biodegrade relatively quickly.

12.3. Bioaccumulative potential

3-Aminomethyl-3,5,5-trimethylcyclohexylamine bioconcentration in aquatic organisms is not expected to be significant. (BCF, QSAR: 3.16). Benzyl Alcohol: low potential for bioaccumulation (log Kow: 1.1).

12.4. Mobility in soil

Liquid. Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). 3-Aminomethyl-3,5,5-trimethylcyclohexylamine: log Koc, QSAR = 2.97. Benzyl Alcohol: expected to have very high mobility in soils.

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 (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

ADR/RID/ADN/IMDG/ICAO: UN2289

TDG: UN2289

US DOT: UN2289

14.2. UN proper shipping name

ADR/RID/ADN/IMDG/ICAO: ISOPHORONEDIAMINE SOLUTION

TDG: ISOPHORONEDIAMINE SOLUTION

US DOT: ISOPHORONEDIAMINE SOLUTION

14.3. Transport hazard class(es)

ADR/RID/ADN/IMDG/ICAO: 8

TDG: 8

US DOT: 8

14.4. Packing group

ADR/RID/ADN/IMDG/ICAO: III

TDG: III

US DOT: III

14.5. Environmental hazards

NO ENVIRONMENTAL HAZARDS

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. 153

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 Liters (49 CFR 173.154 (b,2))

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

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

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:**

Immediate
Delayed

313 Chemicals:

None

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

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)

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 des normes, de l'équité, de la santé et de la sécurité du travail (CNESST)
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 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
Skin Corr. 1B, H314	Calculation method
Skin Sens. 1, H317	Bridging principle "Dilution"
Aquatic Chronic 3, H412	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.
H412: Harmful to aquatic life with long lasting effects.

Hazard pictogram names: Corrosion, exclamation mark

Changes to the SDS in this revision: Section 2.1.

Date of last revision: 24 September 2020

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.