



SAFETY DATA SHEET

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

Revision date: 8 April 2015

Initial date of issue: 6 July 2007

SDS No. 374A-9

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

1.1. Product identifier

ARC CS2 (Part A) (LTGY)

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

For use as a 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:

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]

Eye Irrit. 2, H319
Skin Irrit. 2, H315
Skin Sens. 1, H317
Aquatic Chronic 2, H411

2.1.2. Classification according to Directives 1999/45/EC and 1975/324/EEC

Irritant; Xi; R36/38
R43
Dangerous for the environment; N; R51/53

2.1.3. Classification according to 29 CFR 1910.1200 / WHMIS 2015

Eye Irrit. 2, H319
Skin Irrit. 2, H315
Skin Sens. 1, H317
Aquatic Chronic 2, H411
Flam. Liq. 4, H227

2.1.4. Classification according to WHMIS 1988

D2A: Very toxic materials causing other effects; D2B: Toxic materials causing other effects

2.1.5. Australian statement of hazardous nature

Hazardous according to criteria of Safe Work Australia.

2.1.6. Additional information

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

2.2. Label elements**2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]****Hazard pictograms:****Signal word:** Warning

Hazard statements: H319 Causes serious eye irritation.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements: P261 Avoid breathing mist/spray.
 P273 Avoid release to the environment.
 P280 Wear protective gloves and eye/face protection.
 P333/313 If skin irritation or rash occurs: Get medical advice/attention.
 P337/313 If eye irritation persists: Get medical advice/attention.
 P363 Wash contaminated clothing before reuse.
 P391 Collect spillage.

Supplemental information: Contains epoxy constituents. See information supplied by the manufacturer.**2.2.2. Labelling according to 29 CFR 1910.1200 / WHMIS 2015****Hazard pictograms:****Signal word:** Warning

Hazard statements: H227 Combustible liquid.
 H319 Causes serious eye irritation.
 H315 Causes skin irritation.
 H317 May cause an allergic skin reaction.
 H411 Toxic to aquatic life with long lasting effects.

Precautionary statements: P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P261 Avoid breathing mist/spray.
 P273 Avoid release to the environment.
 P280 Wear protective gloves and eye/face protection.
 P333/313 If skin irritation or rash occurs: Get medical advice/attention.
 P337/313 If eye irritation persists: Get medical advice/attention.
 P363 Wash contaminated clothing before reuse.
 P391 Collect spillage.

Supplemental information: Contains epoxy constituents. See information supplied by the manufacturer.**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.	Classification (CLP/GHS)	Classification (67/548/EEC)
Epoxy resin (number average molecular weight <= 700)	55-65	25068-38-6 and 25085-99-8 500-033-5	01-211545 6619-26	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411	Xi; R36/38 R43 N; R51/53
[[[2-Ethylhexyl)oxy)methyl]oxirane (Synonym: Ethyl Hexyl Glycidyl Ether)	10-15	2461-15-6 219-553-6	NA	Skin Sens. 1, H317 Aquatic Chronic 3, H412	Xi; R43 R52/53
Silica (Quartz)	1-5	14808-60-7 238-878-4	NA	Not classified*	Not classified

N-Methyl-2-pyrrolidone	0.1-0.9	872-50-4 212-828-1	NA	Flam. Liq. 4, H227** Repr. 1B, H360D Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT SE 3, H335	Repr. Cat. 2; R61 Xi; R36/37/38
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Indications of danger acc. to 67/548/EEC: Xi: Irritant; N: Dangerous for the environment

*Substance with a workplace exposure limit.

**Non-CLP classification.

For full text of H-statements and R-phrases: 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, 67/548/EEC, 99/45/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 immediately. 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.

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. Excessive inhalation of vapors or mists can cause coughing, chest tightness and difficulty breathing.

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

Treat symptoms.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Carbon Dioxide, dry chemical, foam or water fog

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: 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.

6.4. Reference to other sections

Refer to section 13 for disposal advice.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Do not breathe spray. 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. 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
Epoxy resin (number average molecular weight <= 700)	–	–	–	–	–	–	–	–
[[[2-Ethylhexyl)oxy]methyl]oxirane	–	–	–	–	–	–	–	–
Silica (Quartz)	(resp) (total)	0.1 0.3	(resp)	0.025	(resp)	0.1	(resp)	0.1
N-Methyl-2-pyrrolidone	–	–	–	–	25 STEL: 75	103 STEL: 309	–	–

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**

Use only in well-ventilated areas. 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. If product is sprayed, utilize an approved air-supplied respirator.

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

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 paste	Odour	sweet
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	0%
% Volatile (by volume)	0%	pH	not applicable
Flash point	80°C (176°F)	Relative density	1.31 kg/l
Method	PM Closed Cup	Weight per volume	10.92 lbs/gal.
Viscosity	5K-10K cps @ 25°C	Coefficient (water/oil)	< 1
Autoignition temperature	not determined	Vapour density (air=1)	> 1
Decomposition temperature	no data available	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 applicable
Explosive properties	not applicable		

9.2. Other information

VOC, EPA 24: 0.94 lbs/gal. (0.11 kg/l).

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

No special requirements.

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 or lung allergies may be aggravated by exposure.

Acute effects: Moderate eye and skin irritant. May cause skin sensitization as evidenced by rashes or hives. Excessive inhalation of vapors or mists can cause coughing, chest tightness and difficulty breathing.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LD50 oral, rat	> 5000 mg/kg
Epoxy resin (number average molecular weight <= 700)	LD50 dermal, rabbit	> 6000 mg/kg
[[[(2-Ethylhexyl)oxy]methyl]oxirane	LD50 oral, rat	7800 mg/kg
[[[(2-Ethylhexyl)oxy]methyl]oxirane	LD50 dermal, rabbit	> 2000 mg/kg
N-Methyl-2-pyrrolidone	LC50 inhalation, rat	> 5.1 mg/1/4 h
N-Methyl-2-pyrrolidone	LD50 dermal, rabbit	8000 mg/kg
N-Methyl-2-pyrrolidone	LD50 oral, rat	3598 mg/kg

Chronic effects: [[[(2-Ethylhexyl)oxy]methyl]oxirane is mutagenic (changes in genetic systems) in some laboratory tests. N-Methyl-2-Pyrrolidone has produced liver, kidney and reproductive/teratogenic effects in animal studies. 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 airborne, therefore it does not present a hazard in normal use.

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. Epoxy resin (number average molecular weight \leq 700): based on available data, the classification criteria are not met.
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.

12.2. Persistence and degradability

Epoxy resin: not readily biodegradable, (5% biodegradation, OECD 301F, 28 days). N-Methyl-2-pyrrolidone: 73% biodegradation, OECD 301C, 28 days, readily biodegradable.

12.3. Bioaccumulative potential

Epoxy resin: bioconcentration factor = 31 (QSAR), low potential for bioaccumulation. N-Methyl-2-pyrrolidone: not expected to bioaccumulate (log Kow < 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). Epoxy resin: if product enters soil, it will be mobile and may contaminate groundwater (log Koc \leq 3.65). N-Methyl-2-pyrrolidone: 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**

Resin and curing agent can be combined and cured for landfill disposal. Unreacted components are a special waste (classified as hazardous according to 2008/98/EC). May be incinerated at an appropriate facility. Check local, state and national/federal regulations and comply with the most stringent requirement.

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. (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. 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: **313 Chemicals:**
Immediate None
Delayed

Hazardous Materials Identification System (HMIS)

4 = Severe Hazard
3 = Serious Hazard
2 = Moderate Hazard
1 = Slight Hazard
0 = Minimal Hazard
* = See Section 8

HEALTH	2
FLAMMABILITY	2
PHYSICAL HAZARD	1
Personal Protection	*

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: Specific Target Organ Toxicity
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:

Classification	Classification procedure
Eye Irrit. 2, H319	Calculation method
Skin Irrit. 2, H315	Calculation method
Skin Sens. 1, H317	Bridging principle "Dilution"
Aquatic Chronic 2, H411	Calculation method

Relevant H-statements: H227: Combustible liquid.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H319: Causes serious eye irritation.
 H335: May cause respiratory irritation.
 H360D: May damage the unborn child.
 H411: Toxic to aquatic life with long lasting effects.

Relevant R-phrases: R36/38: Irritating to eyes and skin.
 R37: Irritating to respiratory system.
 R43: May cause sensitisation by skin contact.
 R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R52: Harmful to aquatic organisms.
 R61: May cause harm to the unborn child.

Hazard pictogram names: Exclamation mark, environment

Changes to the SDS in this revision: Sections 2.1, 2.2, 3, 14, 16..

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.