

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: 26 April 2018 **Initial date of issue:** 29 October 2009 **SDS No.** 434A-6a

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

1.1. Product identifier

ARC HT-T (Part A), (BL,GN)

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

ARC Polymer Composite to be mixed with ARC HT-T (Part B) to provide a corrosion resistant coating for hot water/steam environment.

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 Irrit. 2, H315
Skin Sens. 1, H317
Aquatic Chronic 3, H412

2.1.2. Classification according to WHMIS 1988

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

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:

Warning

Hazard statements:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements: P273 Avoid release to the environment.
 P280 Wear protective gloves.
 P272 Contaminated work clothing should not be allowed out of the workplace.
 P302/352 IF ON SKIN: Wash with plenty of soap and water.
 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 by part. The final cured material is considered nonhazardous.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Hazardous Ingredients ¹	% Wt.	CAS No./ EC No.	REACH Reg. No.	CLP/GHS Classification
Epoxy resin (number average molecular weight <= 700)	20-30	28064-14-4 9003-36-5/ 500-006-8	01-211945 4392-40	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
Other ingredients:				
Aluminum oxide	65-75	1344-28-1 215-691-6	NA	Not classified*
Titanium dioxide	1-5	13463-67-7 236-675-5	01-211948 9379-17	Not classified*
Iron oxide	1-5	1309-37-1 215-168-2	NA	Not classified*
Amorphous silica	1-5	7631-86-9	NA	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), 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. Contact physician if irritation persists.
Eye contact: Flush eyes for at least 15 minutes with large amounts of water. Contact physician if irritation persists.
Ingestion: Do not induce vomiting. Contact physician immediately.

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

Moderate skin irritant. May cause skin sensitization as evidenced by rashes or hives. May cause mild eye irritation: Vapors generated at elevated temperatures and mist could cause respiratory irritation and pulmonary 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 fog

Unsuitable extinguishing media: None known

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

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. 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)	–	–	–	–	–	–	–	–
Aluminum oxide	(total dust) (inhal)	15 5	(resp)	1	(inhal) (resp)	10 4	(insp)	10
Titanium dioxide	–	15	–	10	(inhal) (resp)	10 4	–	10
Iron oxide	–	10	(resp)	5	–	5 STEL: 10	–	5
Amorphous silica	–	20 mppcf	–	–	(inhal) (resp)	6 2.4	(resp)	2

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 necessary, provide 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. In case of insufficient ventilation, utilize an approved organic vapor respirator (e.g., EN filter type A/P-2).

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

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	None
Colour	black or gray	Odour threshold	not determined
Initial boiling point	not applicable	Vapour pressure @ 20°C	not determined
Melting point	not determined	% Aromatics by weight	None
% Volatile (by volume)	< 1%	pH	not applicable
Flash point	> 200°C (> 392°F)	Relative density	2.43 kg/l
Method	PM Closed Cup	Weight per volume	20.2 lbs/gal.
Viscosity	650,000 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: 0.11 lbs/gal.

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

Acids, 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: Inhalation, skin and eye contact. Personnel with pre-existing skin or lung allergies may be aggravated by exposure.

Acute toxicity -**Oral:**

Based on available data on components, the classification criteria are not met.

Substance	Test	Result
Epoxy resin	LD50, rat	> 5000 mg/kg
Aluminum oxide	LD50, rat	> 5000 mg/kg
Titanium dioxide	LD50, rat	> 10000 mg/kg
Amorphous silica	LD50, rat	> 5000 mg/kg

Dermal:

Based on available data on components, the classification criteria are not met.

Substance	Test	Result
Epoxy resin	LC50, rabbit	> 2000 mg/kg
Titanium dioxide	LC50, rabbit	> 10000 mg/kg

Inhalation:

Vapors generated at elevated temperatures and mist could cause respiratory irritation and pulmonary sensitization.

Substance	Test	Result
Epoxy resin	LC50 inhalation (aerosol), rat	> 1.7 mg/l/4 h
Amorphous silica	LC0 inhalation, rat, 4 h	0.69 mg/l

Skin corrosion/irritation:

Moderate skin irritant.

Substance	Test	Result
Epoxy resin	Skin irritation, rabbit	Moderate irritation

Serious eye damage/irritation:

Based on available data on components, the classification criteria are not met.

Substance	Test	Result
Epoxy resin	Eye irritation, rabbit	Slightly irritating

Respiratory or skin sensitisation:

May cause an allergic skin reaction.

Substance	Test	Result
Epoxy resin	Skin sensitization, guinea pig	Sensitizing

Germ cell mutagenicity:

Epoxy resin, Titanium dioxide: based on available data, the classification criteria are not met.

Carcinogenicity:

The International Agency for Research on Cancer (IARC) has designated inhaled titanium dioxide as possibly carcinogenic to humans (group 2B). The titanium dioxide 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:

Epoxy resin, Titanium dioxide: based on available data, the classification criteria are not met.

STOT-single exposure:

Epoxy resin, Titanium dioxide: based on available data, the classification criteria are not met.

STOT-repeated exposure:

Epoxy resin, Titanium dioxide: based on available data, the classification criteria are not met.

Aspiration hazard:

Not classified as an aspiration toxicant.

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

Harmful to aquatic life with long lasting effects. Epoxy resin: 96 h LC50 (fish) / 48 h EC50 (for daphnia) > 1-10 mg/l (based on data from similar materials.).

12.2. Persistence and degradability

Epoxy resin: not readily biodegradable.

12.3. Bioaccumulative potential

Epoxy resin: has the potential to bioaccumulate. Octanol/water partition coefficient (log Kow) = 2.7 – 3.6.

12.4. Mobility in soil

Viscous 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 ≤ 3.65).

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**

Combine resin and curative. The final cured material is considered nonhazardous. Landfill sealed containers with stabilized and solidified liquids in a properly licensed facility. 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.

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:**

Immediate

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 Irrit. 2, H315	Calculation method
Skin Sens. 1A, H317	Bridging principle "Dilution"
Aquatic Chronic 3, H412	Calculation method

Relevant H-statements: H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H411: Toxic to aquatic life with long lasting effects.

Hazard pictogram names: Exclamation mark

Changes to the SDS in this revision: Section 1.3.

Date of last revision: 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.