

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 2023

Date of previous issue: 13 July 2023

SDS No. 293C-12

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

1.1. Product identifier

ARC MX (Part C)

Unique Formula Identifier (UFI): SUE7-7KR2-F9KE-27FT

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

Relevant identified uses: When blended with a properly proportioned polymer matrix the resulting mix will form a wear 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:

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): ProductSDSs@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)
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

Skin sensitization, Category, 1, H317

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:

Warning

Hazard statements:

H317

May cause an allergic skin reaction.

Precautionary statements:	P272	Contaminated work clothing must not be allowed out of the workplace.
	P280	Wear protective gloves.
	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.
	P501	Dispose of contents/container to an approved waste disposal plant.

Supplemental information: None

2.3. Other hazards

The safety and health hazards are detailed separately for Part A, Part B and Part C. The final cured material is considered nonhazardous. Upon machining, refer to the precautions in the safety data sheets for Part A, Part B and Part C.

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
Epoxy resin (number average molecular weight <= 700)	1-2	1675-54-3 * 216-823-5	NA	Eye Irrit. 2, H319 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 2, H411	Eye Irrit. 2A, H319: C ≥ 5 % Skin Irrit. 2, H315: C ≥ 5 % ATE (oral): 5,000 mg/kg ATE (dermal): > 2,000 mg/kg
2,3-Epoxypropyl o-tolyl ether	0.1-0.5	2210-79-9 218-645-3	NA	Muta. 2, H341 Skin Irrit. 2, H315 Skin Sens. 1A, H317 Aquatic Chronic 2, H411	ATE (oral): 5,800 mg/kg ATE (dermal): > 2,000 mg/kg ATE (inhalation, mist): 6.09 mg/l
Other ingredients:					
Aluminum oxide	80-90	1344-28-1 215-691-6	NA	Not classified **	ATE (oral): 5,000 mg/kg
Titanium dioxide	1-2	13463-67-7 236-675-5	NA	Not classified ** ^a	ATE (oral): > 10,000 mg/kg ATE (dermal): > 10,000 mg/kg ATE (inhalation, mist): > 6.82 mg/l

* Alternative CAS No: 25068-38-6, EC No. 500-033-5. ** Substance with a workplace exposure limit.

^a Contains less than 1 % of particles with aerodynamic diameter ≤ 10 µm.

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

¹ Classified according to: • 29 CFR 1910.1200, 1915, 1916, 1917, Mass. Right-to-Know Law (ch. 40, M.G.L..O. 111F)
• 1272/2008/EC, GHS, REACH
• WHMIS 2015
• Safe Work Australia

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation: Not applicable

Skin contact: Remove contaminated clothing. Wash clothing before reuse. Wash skin with soap and water. Consult physician.

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.

Protection of first-aiders: No action shall be taken involving any personal risk or without suitable training. Avoid contact with the product while providing aid to the victim. See section 8.2.2 for recommendations on personal protective equipment.

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

May cause skin sensitization as evidenced by rashes or hives.

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****Hazardous combustion products:** Thermal decomposition may produce Carbon Monoxide, Carbon Dioxide, metal oxides and other toxic fumes.**Other hazards:** None**5.3. Advice for firefighters**

Cool exposed containers with water. Recommend Firefighters wear self-contained breathing apparatus.

Australian 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

No special requirements.

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**

Remove contaminated clothing. Wash clothing before reuse. Contaminated leather including shoes cannot be decontaminated and should be discarded. Utilize exposure controls and personal protection as specified in Section 8.

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)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2,3-Epoxypropyl o-tolyl ether	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Aluminum oxide	(total)	15	(resp.)	1	(inhal.)	10	N/A	10
	(resp.)	5			(resp.)	4		
Titanium dioxide	(total)	15	N/A	10	(total)	10	N/A	10
					(resp)	4		

¹ United States Occupational Health & Safety Administration permissible exposure limits² American Conference of Governmental Industrial Hygienists threshold limit values³ EH40 Workplace exposure limits, Health & Safety Executive⁴ 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
Epoxy resin (number average molecular weight <= 700)	Inhalation	Acute effects, local / Acute effects, systemic	no data available
		Chronic effects, local	no data available
		Chronic effects, systemic	4.93 mg/m ³ (GESTIS)
	Inhalation	Chronic effects, systemic	21.12 mg/m ³ (GESTIS)

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

Not available

8.2. Exposure controls**8.2.1. Engineering measures**

No special requirements. If exposure limits are exceeded, provide adequate ventilation.

8.2.2. Individual protection measures

Respiratory protection: Not normally needed. If exposure limits are exceeded, use a self-contained breathing apparatus (SCBA), supplied air respirator (SAR) or air-purifying respirator (APR) with a suitable filter (e.g., EN filter type P1).

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

Eye and face protection: Safety glasses

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	mixture of beads	pH	not applicable
Colour	white	Kinematic viscosity	not applicable
Odour	sweet epoxy odor	Solubility in water	slightly soluble
Odour threshold	not determined	Partition coefficient n-octanol/water (log value)	not applicable
Boiling point or range	not applicable	Vapour pressure @ 20°C	not determined
Melting point/freezing point	not applicable	Density and/or relative density	3.37 kg/l
% Volatile (by volume)	none	Weight per volume	28.04 lbs/gal.
Flammability	noncombustible	Vapour density (air=1)	> 1
Lower/upper flammability or explosion limits	not determined	Rate of evaporation (ether=1)	< 1
Flash point	not applicable	% Aromatics by weight	none
Method	not applicable	Particle characteristics	not determined
Autoignition temperature	not determined	Explosive properties	not determined
Decomposition temperature	not determined	Oxidising properties	not determined

9.2. Other information

None

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

No data available for the mixture. 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

High temperatures

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

Thermal decomposition may produce Carbon Monoxide, Carbon Dioxide, metal oxides and other toxic fumes.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 / GHS****Primary route of exposure under normal use:** Skin and eye contact. Personnel with pre-existing skin and eye disorders and skin 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 (number average molecular weight <= 700)	LD50, rat	> 5,000 mg/kg
2,3-Epoxypropyl o-tolyl ether	LD50, rat	> 2,000 mg/kg
Aluminum oxide	LD50, rat	> 5,000 mg/kg
Titanium dioxide	LD50, rat	> 10,000 mg/kg

Dermal:

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

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LD50, rabbit	> 2,000 mg/kg
2,3-Epoxypropyl o-tolyl ether	LD50, rabbit	5,800 mg/kg
Titanium dioxide	LD50, rabbit	> 10,000 mg/kg

Inhalation:

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LC50, rat, 5-8 h	No mortality at vapor saturation level
2,3-Epoxypropyl o-tolyl ether	LC50, rat, 4 h	No mortality at vapor saturation level
2,3-Epoxypropyl o-tolyl ether	LC50, rat, 4 h	6.09 mg/l (aerosol)
Titanium dioxide	LC50, rat, 4 h	6.82 mg/l (dust)

Skin corrosion/irritation:

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Skin irritation, rabbit	Moderate irritation
2,3-Epoxypropyl o-tolyl ether	Skin irritation, human experience	Severe irritation
Aluminum oxide	Skin irritation, rabbit	Not irritating

Serious eye damage/irritation:

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Eye irritation, rabbit	Moderate irritation / Mild irritation
Aluminum oxide	Eye irritation, rabbit	Not irritating

Respiratory or skin sensitisation:

May cause skin sensitization as evidenced by rashes or hives.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Skin sensitization, guinea pig	Sensitizing
2,3-Epoxypropyl o-tolyl ether	Skin sensitization, human experience	Sensitizing
Aluminum oxide	Skin sensitization, guinea pig	Not sensitizing

Germ cell mutagenicity:	2,3-Epoxypropyl o-tolyl ether is mutagenic (changes in genetic systems) in some laboratory tests. Epoxy resin (number average molecular weight \leq 700): based on available data, the classification criteria are not met. Aluminum oxide, Ames test: negative.
Carcinogenicity:	The International Agency for Research on Cancer (IARC) has designated inhaled titanium dioxide as possibly carcinogenic to humans (group 2B).
Reproductive toxicity:	Epoxy resin (number average molecular weight \leq 700), Aluminum oxide: based on available data, the classification criteria are not met. Prolonged and repeated exposure to 2,3-Epoxypropyl O-tolyl Ether may cause reproductive disorders (birth defects/sterility).
STOT – single exposure:	Epoxy resin (number average molecular weight \leq 700), Aluminum oxide: based on available data, the classification criteria are not met.
STOT – repeated exposure:	Epoxy resin (number average molecular weight \leq 700), Aluminum oxide: based on available data, the classification criteria are not met.

Substance	Test	Result
Epoxy resin (number average molecular weight \leq 700)	Sub-chronic NOAEL, oral, 90 days, rat, male / female (OECD 408)	50 mg/kg bw/day
Epoxy resin (number average molecular weight \leq 700)	Sub-chronic NOAEL, dermal, 90 days, rat, male / female (OECD 411)	10 mg/kg bw/day
Epoxy resin (number average molecular weight \leq 700)	Sub-chronic NOAEL, dermal, 90 days, mouse, male (OECD 411)	100 mg/kg bw/day

Aspiration hazard: Based on available data, the classification criteria are not met.

11.2. Information on other hazards

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

Not expected to be harmful to aquatic organisms.

12.2. Persistence and degradability

Epoxy resin (number average molecular weight \leq 700), 2,3-Epoxypropyl o-tolyl ether: not readily biodegradable. Aluminum oxide, Titanium dioxide: inorganic substances.

12.3. Bioaccumulative potential

Epoxy resin (number average molecular weight \leq 700): log Kow = 2.64 – 3.8, low potential for bioaccumulation. 2,3-Epoxypropyl o-tolyl ether: log Kow = 2.5, low potential for bioaccumulation. Aluminum oxide: bioconcentration in aquatic organisms is not expected to be significant.

12.4. Mobility in soil

Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9).

12.5. Results of PBT and vPvB assessment

Not available

12.6. Endocrine disrupting properties

None known

12.7. 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 a properly licensed facility. May be incinerated at an appropriate facility. Unreacted components are a special waste. Check local, state and national/federal regulations and comply with the most stringent requirement.

SECTION 14: TRANSPORT INFORMATION**14.1. UN number or ID number**

ADG/ADR/RID/ADN/IMDG/ICAO: NOT APPLICABLE
TDG: NOT APPLICABLE
US DOT: NOT APPLICABLE

14.2. UN proper shipping name

ADG/ADR/RID/ADN/IMDG/ICAO: NON-HAZARDOUS, NON REGULATED
TDG: NON-HAZARDOUS, NON REGULATED
US DOT: NON-HAZARDOUS, NON REGULATED

14.3. Transport hazard class(es)

ADG/ADR/RID/ADN/IMDG/ICAO: NOT APPLICABLE
TDG: NOT APPLICABLE
US DOT: NOT APPLICABLE

14.4. Packing group

ADG/ADR/RID/ADN/IMDG/ICAO: NOT APPLICABLE
TDG: NOT APPLICABLE
US DOT: NOT APPLICABLE

14.5. Environmental hazards

NOT APPLICABLE

14.6. Special precautions for user

NOT APPLICABLE

14.7. Maritime transport in bulk according to IMO instruments

NOT APPLICABLE

14.8. Other information

NOT APPLICABLE

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: **Chemicals subject to reporting requirements of Section 313 of EPCRA and of 40 CFR 372:**

Skin sensitization **None**

TSCA: All components are listed or exempted.

Other national regulations: National implementation of the EC Directives 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: ADG: Australian Dangerous Goods Code
 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
 cATpE: Converted Acute Toxicity point Estimate
 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)
 REL: Recommended Exposure Limit
 RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
 SCL: Specific Concentration Limit
 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)
 TWA: Time Weighted Average
 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)
 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)

Procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008 [CLP] / GHS:

Classification	Classification procedure
Skin sensitization, Category 1, H317	Calculation method

Relevant H-statements: H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H319: Causes serious eye irritation.
 H341: Suspected of causing genetic defects.
 H411: Toxic to aquatic life with long lasting effects.

Hazard pictogram names: Not applicable

Further information: None

Date of last revision: 5 December 2023

Changes to the SDS in this revision: Section 1.1.

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.