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: 9 November 2017 **Initial date of issue:** 17 May 2007 **SDS No.** 232A-15

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

1.1. Product identifier

ARC 797 (Part A)

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

ARC Polymer Composite. Repairs damage caused by impact, abrasion or erosion.

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
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

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)
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 / GHS

Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317
Muta. 2, H341
Aquatic Chronic 2, H411

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: Warning

Hazard statements:	H315	Causes skin irritation.
	H319	Causes serious eye irritation.
	H317	May cause an allergic skin reaction.
	H341	Suspected of causing genetic defects.
	H411	Toxic to aquatic life with long lasting effects.
Precautionary statements:	P201	Obtain special instructions before use.
	P202	Do not handle until all safety precautions have been read and understood.
	P261	Avoid breathing mist/spray.
	P264	Wash skin thoroughly after handling.
	P272	Contaminated work clothing must not be allowed out of the workplace.
	P273	Avoid release to the environment.
	P280	Wear protective gloves and eye/face protection.
	P302/352	IF ON SKIN: Wash with plenty of soap and water.
	P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P308/313	IF exposed or concerned: Get medical advice/attention.
	P362/364	Take off contaminated clothing and wash it before reuse.
	P391	Collect spillage.
	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 by part. Upon machining, it can only be categorized as a nuisance dust.

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)	70-80	25068-38-6 500-033-5	NA	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411
2,3-Epoxypropyl o-tolyl ether	15-25	2210-79-9 218-645-3	NA	Skin Irrit. 2, H315 Skin Sens. 1, H317 Muta. 2, H341 Aquatic Chronic 2, H411

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, GHS, REACH
* WHMIS 2015
* Safe Work Australia

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. Wash clothing before reuse. 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.

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 for recommendations on personal protective equipment.

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

Moderate eye and skin irritant. May cause skin sensitization (possible rash, hives). Inhalation may cause irritation to nose, throat and respiratory tract.

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 may produce Carbon Monoxide, Carbon Dioxide, aldehydes and 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 all direct 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. 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

Avoid all direct contact. Do not breathe spray. Utilize exposure controls and personal protection as specified in Section 8. Wash thoroughly after handling. Remove contaminated clothing. Wash clothing before reuse. Contaminated leather including shoes cannot be decontaminated and should be discarded.

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)	–	–	–	–	–	–	–	–
2,3-Epoxypropyl o-tolyl ether	–	–	–	–	–	–	–	–

[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]

Derived No Effect Level (DNEL) according to Regulation (EC) No 1907/2006:

Workers

Not available

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

Not available

8.2. Exposure controls

8.2.1. Engineering measures

If exposure limits are exceeded, provide adequate ventilation.

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**	sweet odor
Colour	clear	**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	100°C (213°F)	**Relative density**	1.14 kg/l
Method	PM Closed Cup	**Weight per volume**	9.5 lbs/gal.
Viscosity	500-1,100 cps @ 25°C	**Coefficient (water/oil)**	< 1
Autoignition temperature	not applicable	**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 determined		

9.2. Other information

VOC (EPA 24): 1.68 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

None

10.5. Incompatible materials

Strong acids/bases and strong oxidizers like liquid Chlorine and concentrated Oxygen.

10.6. Hazardous decomposition products

Carbon Monoxide, Carbon Dioxide, 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 skin or lung allergies may be aggravated by exposure.

Acute toxicity -

Oral: Based on available data on components, the classification criteria are not met. Ingestion may result in mouth, throat and gastrointestinal irritation, nausea, vomiting and diarrhea.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LD50, rat	11,400 mg/kg
2,3-Epoxypropyl o-tolyl ether	LD50, rat	5,800 mg/kg

Dermal:

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LD50, rabbit	> 2,000 mg/kg
2,3-Epoxypropyl o-tolyl ether	LD50, rabbit (OECD 402)	> 2,000 mg/kg

Inhalation: Inhalation may cause irritation to nose, throat and respiratory tract.

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 inhalation, rat, 4 h	1,220 ppm

Skin corrosion/irritation: Causes skin 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

Serious eye damage/ irritation: Causes serious eye irritation.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Eye irritation, rabbit	Mild irritation / Moderate irritation

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

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 <= 700): based on available data, the classification criteria are not met.

Carcinogenicity: As per 29 CFR 1910.1200 (Hazard Communication), this product contains no carcinogens as listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or Regulation (EC) No 1272/2008.

Reproductive toxicity: Epoxy resin (number average molecular weight <= 700): 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), data lacking.

STOT-single exposure: Not expected to cause toxicity.

STOT-repeated exposure:

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

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

2,3-Epoxypropyl o-tolyl ether and Epoxy resin (number average molecular weight <= 700) are toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment (LC50/EC50 between 1 and 10 mg/l in the most sensitive species).

12.2. Persistence and degradability

Epoxy resin (number average molecular weight <= 700), 2,3-Epoxypropyl o-tolyl ether: not readily biodegradable. Unreacted components (Parts A and B), improperly released to the environment, can cause ground and water pollution.

12.3. Bioaccumulative potential

Epoxy resin (number average molecular weight <= 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.

12.4. Mobility in soil

Viscous liquid. 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.

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 stabilized and solidified liquids in an approved area. 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. Directive 92/85/EEC on the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.

15.1.2. National regulations

US EPA SARA TITLE III

312 Hazards:	**313 Chemicals:**
Immediate	None
Delayed	

Other national regulations: National implementations 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:

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
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 Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
Skin Sens. 1, H317	Bridging principle "Dilution"
Muta. 2, H341	Bridging principle "Dilution"
Aquatic Chronic 2, H411	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: Health hazard, exclamation mark, environment

Changes to the SDS in this revision: Sections 3, 4.1.

Date of last revision: 9 November 2017

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.

SAFETY DATA SHEET

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

Revision date: 28 December 2016 **Initial date of issue:** 30 May 2007 **SDS No.** 232B-16

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

1.1. Product identifier

ARC 797 (Part B)

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

ARC Polymer Composite. Repair damage caused by impact, abrasion or erosion and chemical attack.

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
EU: Chesterton International GmbH, Am Lenzenfleck 23,
D85737 Ismaning, Germany – Tel. +49-89-996-5460

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)
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 / GHS

Acute Tox. 4, H302/312/332
Skin Corr. 1B, H314
Skin Sens. 1, H317
Eye Dam. 1, H318
Repr. 2, H361f
Aquatic Chronic 3, H412

2.1.2. Classification according to WHMIS 1988

E: Corrosive materials; 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: Danger

Hazard statements:	H302/312/332	Harmful if swallowed, in contact with skin or if inhaled.
	H314	Causes severe skin burns and eye damage.
	H317	May cause an allergic skin reaction.
	H361f	Suspected of damaging fertility.
	H412	Harmful to aquatic life with long lasting effects.
Precautionary statements:	P201	Obtain special instructions before use.
	P260	Do not breathe mist/spray.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/clothing and eye/face protection.
	P303/361/353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
	P304/340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	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.
	P308/313	IF exposed or concerned: 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. 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
Benzyl alcohol	35-55	100-51-6 202-859-9	01-211949 2630-38	Acute Tox. 4, H332, H302 Eye Irrit. 2, H319
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	25-35	2855-13-2 220-666-8	01-21195 14687-32	Acute Tox. 4, H302, H312 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412
Bisphenol A	1-5	80-05-7 201-245-8	NA	Repr. 2, H361f STOT SE 3, H335 Eye Dam. 1, H318 Skin Sens. 1, H317
Diethylenetriamine*	1-4	111-40-0 203-865-4	NA	Acute Tox. 2, H330 Acute Tox. 4, H312, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT SE 3, H335 Skin Sens. 1, H317
2-Piperazin-1-ylethylamine	1-2	140-31-8 205-411-0	NA	Acute Tox. 4, H302 Acute Tox. 3, H311 Skin Corr. 1B, H314 Skin Sens. 1, H317 Aquatic Chronic 3, H412
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	1-2	31326-29-1 500-072-8	NA	Acute Tox. 4, H302 Skin Corr. 1B, H314 STOT SE 3, H335

*This component is toxic by inhalation if sprayed or if aerosol/mist is created. Refer to section 11 for additional toxicity information. 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, GHS, REACH
* WHMIS 2015
* Safe Work Australia

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. Contact physician immediately.

Eye contact: Flush eyes for at least 15-20 minutes with large amounts of water. Remove contact lenses, if present and easy to do. Continue rinsing. Contact physician immediately.

Ingestion: Do not induce vomiting. Contact physician immediately.

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

Corrosive to eyes, skin and mucous membranes, which can result in strong irritation, burning and tissue damage. May cause skin sensitization as evidenced by rashes or hives. Mists/vapors can be severely irritating to the eyes and respiratory tract and cause dizziness, headache, nausea and other central nervous system effects.

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

Treat symptoms. Application of corticosteroid cream has been effective in treating skin irritation.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam, carbon dioxide, dry chemical, dry sand, limestone powder

Unsuitable extinguishing media: Water jets

5.2. Special hazards arising from the substance or mixture

Use of water may result in the formation of very toxic aqueous solutions.

5.3. Advice for firefighters

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

Flammability Classification: –

HAZCHEM Emergency Action Code: 2

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate area. Use self-contained breathing apparatus and chemically protective clothing.

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. Cover spill with non-combustible absorbent material (e.g., sand, clay, etc.) and 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

Avoid all direct contact. Do not breathe mist/spray. Avoid breathing vapors. 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. Wash before eating, drinking or smoking. Keep container closed when not in use.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry and well-ventilated 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
Benzyl alcohol*	–	–	–	–	–	–	–	–
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	–	–	–	–	–	–	–	–
Bisphenol A	–	–	–	–	–	–	–	–
Diethylenetriamine	–	–	1 (skin)	4.2	–	–	1 (skin)	4.2
2-Piperazin-1-ylethylamine	–	–	–	–	–	–	–	–
4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine	–	–	–	–	–	–	–	–

***American Industrial Hygiene Association (AIHA) recommended limit: 10 ppm, 44.2 mg/m^3, 8-hr TWA
[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. Provide readily accessible eye wash stations and safety showers.

8.2.2. Individual protection measures

Respiratory protection: 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. During spraying wear suitable respiratory equipment.

Protective gloves: Chemical resistant gloves (e.g., natural rubber, neoprene or PVC)

Diethylenetriamine:

Contact type	Glove material	Layer thickness	Breakthrough time*
Full	neoprene	0.65 mm	> 480 min.
Splash	natural rubber	0.6 mm	> 60 min.

*Determined according to EN374 standard.

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	liquid	**Odour**	amine
Colour	amber	**Odour threshold**	not determined
Initial boiling point	> 103°C (> 217°F)	**Vapour pressure @ 20°C**	not determined
Melting point	not determined	**% Aromatics by weight**	not determined
% Volatile (by volume)	not determined	**pH**	not applicable
Flash point	103°C (217°F)	**Relative density**	1.03 kg/l
Method	PM Closed Cup	**Weight per volume**	8.59 lbs/gal.
Viscosity	2500-4000 cps @ 25°C	**Coefficient (water/oil)**	< 1
Autoignition temperature	315°C (599°F)	**Vapour density (air=1)**	> 1
Decomposition temperature	not determined	**Rate of evaporation (ether=1)**	< 1
Upper/lower flammability or explosive limits	LEL: 1% UEL: 10.5%	**Solubility in water**	miscible
Flammability (solid, gas)	not applicable	**Oxidising properties**	can react violently with oxygen rich material
Explosive properties	danger of explosion		

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

Can react violently with oxygen rich (oxidizing) material. Contact with acids releases irritant gases. Reacts with hot water (> 80 °C) forming ammonia.

10.4. Conditions to avoid

No data available

10.5. Incompatible materials

Strong acids, reactive metals and strong oxidizers like liquid Chlorine and concentrated Oxygen.

10.6. Hazardous decomposition products

Nitric acid, NOx, Ammonia, Carbon Monoxide, Carbon Dioxide 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 and skin and eye disorders may be aggravated by exposure.

Acute toxicity -

Oral: Harmful if swallowed. ATE-mix, 1192 mg/kg. If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. May cause central nervous system effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion, breathing difficulties.

Substance	Test	Result
Benzyl alcohol	LD50, rat	1230 mg/kg
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	LD50, rat	1030 mg/kg
Bisphenol A	LD50, rat	3250 mg/kg
Diethylenetriamine	LD50, rat	1080 mg/kg
2-Piperazin-1-ylethylamine	LD50, rat	2097 mg/kg

Dermal: Harmful in contact with skin. ATE-mix, 1939 mg/kg. If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties.

Substance	Test	Result
Benzyl alcohol	LD50, rabbit	2000 mg/kg
3-Aminomethyl-3,5,5-trimethylcyclohexylamine	LD50, rabbit	1840 mg/kg
Bisphenol A	LD50, rabbit	3600 mg/kg
Diethylenetriamine	LD50, rabbit	1045 mg/kg
2-Piperazin-1-ylethylamine	LD50, rabbit	866 mg/kg

Inhalation: Harmful if inhaled (mist). ATE-mix, 1.75 mg/l (mist). ATE-mix, 21.26 mg/l (vapor). May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties.

Substance	Test	Result
Benzyl alcohol	LC50, rat, 4 hours	11 mg/l (cATpE)
Bisphenol A	LCLo Aerosol, rat, 6 hours	0.17 mg/l
Diethylenetriamine	LC50, rat, 4 hours	> 0.07-< 0.3 mg/l (mist) No mortality at vapor saturation level
2-Piperazin-1-ylethylamine	LC0, rat, 8 h	No mortality at vapor saturation level

Skin corrosion/irritation: Causes severe skin burns.

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

Serious eye damage/ irritation: Risk of serious damage to eyes.

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

Respiratory or skin sensitisation: May cause an allergic skin reaction.

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

Germ cell mutagenicity: Benzyl alcohol, 3-Aminomethyl-3,5,5-trimethylcyclohexylamine, Diethylenetriamine: based on available data, the classification criteria are not met.

Carcinogenicity: As per 29 CFR 1910.1200 (Hazard Communication), this product contains no carcinogens as listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or Regulation (EC) No 1272/2008.

Reproductive toxicity: Bisphenol A has produced effects on fertility in animal ingestion studies. Diethylenetriamine, 3-Aminomethyl-3,5,5-trimethylcyclohexylamine: not expected to cause toxicity. Benzyl alcohol: data lacking.

STOT-single exposure: Bisphenol A, Diethylenetriamine, 4,4'-Isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, reaction products with diethylenetriamine: may cause respiratory irritation. Benzyl alcohol, data lacking. 3-Aminomethyl-3,5,5-trimethylcyclohexylamine: based on available data, the classification criteria are not met.

STOT-repeated exposure: 3-Aminomethyl-3,5,5-trimethylcyclohexylamine, Diethylenetriamine, Bisphenol A, 2-Piperazin-1-ylethylamine: not expected to cause organ damage from prolonged or repeated exposure. Benzyl alcohol: data lacking.

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

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 3-Aminomethyl-3,5,5-trimethylcyclohexylamine: 72 h ErC50 (for algae) > 50 mg/l. 2-Piperazin-1-ylethylamine: 48 h EC50 (for daphnia) = 58 mg/l.

12.2. Persistence and degradability

Unreacted components, improperly released to the environment, can cause ground and water pollution. 3-Aminomethyl-3,5,5-trimethylcyclohexylamine: may biodegrade, not readily biodegradable. Diethylenetriamine: expected to be resistant to biodegradation. Benzyl alcohol Bisphenol A: readily biodegradable.

12.3. Bioaccumulative potential

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

12.4. Mobility in soil

Liquid. Slightly soluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). Benzyl alcohol: expected to have very high mobility in soils (Koc < 5-29). 3-Aminomethyl-3,5,5-trimethylcyclohexylamine: log Koc = 2.97 – QSAR. Diethylenetriamine, Bisphenol A: expected to have moderate to low mobility in soil.

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. Combine resin and curative. The final cured material is considered nonhazardous. Landfill sealed containers with stabilized and solidified liquids in a properly licensed facility. May be incinerated at an appropriate facility. Classified as hazardous according to 2008/98/EC. 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:	UN2735
TDG:	UN2735
US DOT:	UN2735

14.2. UN proper shipping name

ADR/RID/ADN/IMDG/ICAO:	AMINES, LIQUID, CORROSIVE, N.O.S. (2,2'- IMINODIETHYLAMINE, 2-PIPERAZIN-1-YLETHYLAMINE/ ISOPHORONEDIAMINE)
TDG:	AMINES, LIQUID, CORROSIVE, N.O.S. (2,2'- IMINODIETHYLAMINE, 2-PIPERAZIN-1-YLETHYLAMINE/ ISOPHORONEDIAMINE)
US DOT:	AMINES, LIQUID, CORROSIVE, N.O.S. (2,2'- IMINODIETHYLAMINE, 2-PIPERAZIN-1-YLETHYLAMINE/ ISOPHORONEDIAMINE)

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:	II
TDG:	II
US DOT:	II

14.5. Environmental hazards

NO ENVIRONMENTAL HAZARD

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: May be shipped as Limited Quantities in packaging having a rated capacity gross weight of 30kg(66 lbs.) or less and in inner

packagings not over 1.0 L (0.3 gallon) net capacity each. (49 CFR 173.154 (b,1) ERG NO. 153
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. Directive 92/85/EEC on the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.

15.1.2. National regulations

US EPA SARA TITLE III

312 Hazards:	**313 Chemicals:**
Immediate	Bisphenol A 80-05-7 1-5%
Delayed	

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:

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
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 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
Eye Dam. 1, H318	Calculation method
Acute Tox. 4, H302/312/332	Calculation method
Repr. 2, H361f	Bridging principle "Dilution"
Skin Sens. 1, H317	Bridging principle "Dilution"
Aquatic Chronic 3, H412	Calculation method

Relevant H-statements: H302: Harmful if swallowed.
H311: Toxic in contact with skin.
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.
H319: Causes serious eye irritation.
H330: Fatal if inhaled.
H332: Harmful if inhaled.
H335: May cause respiratory irritation.
H361f: Suspected of damaging fertility.
H412: Harmful to aquatic life with long lasting effects.

Hazard pictogram names: Corrosion, exclamation mark, health hazard

Changes to the SDS in this revision: Section 8.1.

Date of last revision: 28 December 2016

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.