SAFETY DATA SHEET

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

Revision date: 26 June 2018 **Initial date of issue:** 13 January 2017 **SDS No.** 468A-1

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

1.1. Product identifier

ARC BX2 (Part A) (GY, RD), ARC BX5 (MX5) (Part A) (GY, RD)

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

ARC Polymer Composite. Abrasion resistant two component coating, mixed and applied with a trowel.

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]

Skin irritation, Category 2, H315
Skin sensitization, Category 1, H317
Serious eye irritation, Category 2, H319
Hazardous to the aquatic environment, Chronic, Category 3, H412

2.1.2. Classification according to 29 CFR 1910.1200 / WHMIS 2015

Same as section 2.1.1.

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

2.2.1. Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms:

Signal word: Warning

Hazard statements:	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H319	Causes serious eye irritation.
	H412	Harmful to aquatic life with long lasting effects.
Precautionary statements:	P264	Wash hands thoroughly after handling.
	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.
	P333/313	If skin irritation or rash occurs: Get medical advice/attention.
	P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P337/313	If eye irritation persists: Get medical advice/attention.
	P362/364	Take off contaminated clothing and wash it before reuse.
Supplemental information:	None	

2.2.2. Labelling according to 29 CFR 1910.1200 / WHMIS 2015

Hazard pictograms:	Same as section 2.2.1.	
Signal word:	Same as section 2.2.1.	
Hazard statements:	Same as section 2.2.1.	
Precautionary statements:	P264	Wash hands 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.
	P333/313	If skin irritation or rash occurs: Get medical advice/attention.
	P305/351/338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P337/313	If eye irritation persists: 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:

2.3. Other hazards

If vapors are produced, they will irritate the respiratory tract and cause coughing and labored breathing. The safety and health hazards are detailed separately for Part A and Part B. 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)	10-17	25068-38-6 500-033-5	NA	Eye Irrit. 2, H319** Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411
		and		
	3-7	9003-36-5* 500-006-8		
Benzyl alcohol	1-5	100-51-6 202-859-9	NA	Acute Tox. 4, H302/332 Eye Irrit. 2, H319
Other ingredients:				
Aluminum oxide	15-40	1302-74-5 215-691-6	NA	Not classified***
Silicon carbide	3-7	409-21-2 206-991-8	NA	Not classified***
Iron oxide	0-5	1309-37-1 215-168-2	NA	Not classified***
Titanium dioxide	0.1-0.9	13463-67-7 236-675-5	01-211948 9379-17	Not classified***

*Alternative CAS No: 28064-14-4. **Applies to CAS no. 25068-38-6 only.
***Substance with a workplace exposure limit.
For full text of H-statements: see SECTION 16.

[1] Classified according to:
- 29 CFR 1910.1200, 1915, 1916, 1917, Mass. Right-to-Know Law (ch. 40, M.G.L..O. 111F)
- 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 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 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 as evidenced by rashes or hives. If vapors are produced, they will irritate the respiratory tract and cause coughing and labored breathing.

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

None

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

Avoid skin contact. 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)	–	–	–	–	–	–	–	–
Benzyl alcohol	–	–	–	–	–	–	–	–
Aluminum oxide	(total) (resp.)	15 5	(resp.)	1	(inhal.) (resp.)	10 4	–	10
Silicon carbide	(total) (resp.)	15 5	(inhal.) (resp.)	10 3	(inhal.) (resp.)	10 4	–	10
Iron oxide	(fume)	10	(resp.)	5	(fume, as Fe)	5	(fume, as Fe)	5
Titanium dioxide	(total)	15	–	10	(inhal.) (resp.)	10 4	–	10

[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

Substance	Route of exposure	Potential health effects	DNEL
Epoxy resin (CAS no. 9003-36-5)	Inhalation	Acute effects, local / Acute effects, systemic	no data available
		Chronic effects, local	no data available
		Chronic effects, systemic	29.39 mg/m^3
	Dermal	Acute effects, local	0.0083 mg/cm^2
		Acute effects, systemic / Chronic effects, local	no data available
		Chronic effects, systemic	104.15 mg/kg/day
Benzyl alcohol	Inhalation	Acute effects, local / Chronic effects, local	no data available
		Acute effects, systemic	110 mg/m^3
		Chronic effects, systemic	22 mg/m^3
	Dermal	Acute effects, local / Chronic effects, local	no data available
		Acute effects, systemic	40 mg/kg/day
		Chronic effects, systemic	8 mg/kg/day

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

Substance	Environmental protection target	PNEC
Epoxy resin (CAS no. 9003-36-5)	Fresh water	0.003 mg/l
	Marine water	0.0003 mg/l
	Water, intermittent release	0.0254 mg/l
	Microorganisms in sewage treatment	10 mg/l
	Freshwater sediments	0.294 mg/kg
	Marine sediments	0.0294 mg/kg
	Soil (agricultural)	0.237 mg/kg
Benzyl alcohol	Fresh water	1 mg/l
	Marine water	0.1 mg/l
	Water, intermittent release	2.3 mg/l
	Freshwater sediments	5.27 mg/kg
	Marine sediments	0.527 mg/kg
	Microorganisms in sewage treatment	39 mg/l
	Soil (agricultural)	0.456 mg/kg/day
	Food chain	No hazard identified

8.2. Exposure controls

8.2.1. Engineering measures

No special requirements. 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 exposure limits are exceeded, use a half or full-face respirator with combined dust/organic vapour filter (e.g., EN filter type A-P2).

Protective gloves: Chemical resistant gloves (e.g., 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	gritty paste	**Odour**	sweet
Colour	blue or red	**Odour threshold**	not determined
Initial boiling point	not determined	**Vapour pressure @ 20°C**	< 0.1 mm Hg
Melting point	not determined	**% Aromatics by weight**	none
% Volatile (by volume)	none	**pH**	not applicable
Flash point	> 102°C (> 216°F)	**Relative density**	2.2 kg/l
Method	PM Closed Cup	**Weight per volume**	18.3 lbs/gal.
Viscosity	450K 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 applicable
Explosive properties	not applicable		

9.2. Other information

None

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Refer to sections 10.3 and 10.5.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

No dangerous reactions known under conditions of normal use.

10.4. Conditions to avoid

None

10.5. Incompatible materials

Strong mineral acids and 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 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. ATE-mix: 70,690 mg/kg.

Substance	Test	Result
Epoxy resin	LD50, oral, rat	> 5,000 mg/kg
Benzyl alcohol	LD50, oral, rat	1,230 mg/kg

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

Substance	Test	Result
Epoxy resin	LD50, dermal, rabbit	> 2,000 mg/kg
Benzyl alcohol	LD50, dermal, rabbit	2,000 mg/kg

Inhalation: Based on available data on components, the classification criteria are not met. ATE-mix > 240.1 mg/l (mist). ATE-mix, 632.2 mg/l (vapor).

Substance	Test	Result
Benzyl alcohol	LC50, rat, 4 hours	8.8 mg/l (vapor)
Benzyl alcohol	LC50, rat, 4 hours	> 4.178 mg/l (mist)

Skin corrosion/irritation: Causes skin irritation.

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

Serious eye damage/ irritation: Causes serious eye irritation.

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

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

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Skin sensitization, guinea pig	Sensitizing

Germ cell mutagenicity: Epoxy resin (number average molecular weight <= 700), Aluminum oxide, Silicon carbide: based on available data, the classification criteria are not met.

Carcinogenicity: Based on recent 2-year mice skin painting studies and other available information, the International Agency for Research on Cancer (IARC) concluded that they did not have enough information to classify Epoxy resin (number average molecular weight <= 700, CAS no. 25068-38-6). IARC has designated inhaled titanium dioxide as possibly carcinogenic to humans (group 2B).

Reproductive toxicity: Epoxy resin (number average molecular weight <= 700), Aluminum oxide, Silicon carbide: based on available data, the classification criteria are not met.

STOT – single exposure: Epoxy resin (number average molecular weight <= 700), Aluminum oxide, Silicon carbide: based on available data, the classification criteria are not met.

STOT – repeated exposure: Epoxy resin (number average molecular weight <= 700), Aluminum oxide, Silicon carbide: 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

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Epoxy resin (number average molecular weight <= 700): moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/l in the most sensitive species.); chronic NOEC, 21 days, Daphnia magna (OECD 211) = 0.3 mg/l.

12.2. Persistence and degradability

Epoxy resin: not readily biodegradable. Benzyl alcohol: expected to biodegrade relatively quickly.

12.3. Bioaccumulative potential

Epoxy resin: Octanol/water partition coefficient (log Kow) = 2.64 – 3.78, low potential for bioaccumulation. Benzyl alcohol: low potential for bioaccumulation (BCF < 100).

12.4. Mobility in soil

Paste. Insoluble in water. Epoxy resin: if product enters soil, it will be mobile and may contaminate groundwater (log Koc ≤ 3.65). In determining environmental mobility, consider the product's physical and chemical properties (see Section 9).

12.5. Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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 a properly licensed facility. May be incinerated at an appropriate facility. Unreacted components are a special waste (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:	NOT APPLICABLE
TDG:	NOT APPLICABLE
US DOT:	NOT APPLICABLE

14.2. UN proper shipping name

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)

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

14.4. Packing group

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. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

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:	**313 Chemicals:**
See section 2.1	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
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]:

Classification	Classification procedure
Skin Irrit. 2, H315	Calculation method
Skin Sens. 1, H317	Bridging principle "Dilution"
Eye Irrit. 2, H319	Calculation method
Aquatic Chronic 3, H412	Calculation method

Relevant H-statements:

H302: Harmful if swallowed.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H332: Harmful if inhaled.
H411: Toxic to aquatic life with long lasting effects.
H412: Harmful to aquatic life with long lasting effects.

Hazard pictogram names: Exclamation mark

Changes to the SDS in this revision: Sections 1.1, 2.1, 2.2, 3, 4.1, 8.1, 8.2.2, 9.1, 11, 13, 15.1.2.

Date of last revision: 26 June 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.

Safety Data Sheet

according to Regulation (EC) No 1907/2006

ARC BX2(E) Part B

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

ARC BX2(E) Part B

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

Use of the substance/mixture

ARC Polymer Composite. Repair damage caused by impact, abrasion, erosion or corrosion; rebuild worn areas; fill holes and cracks; provide abrasion resistant surfaces.

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet

Company name:	Chesterton International GmbH	
Street:	Am Lenzenfleck 23	
Place:	DE-85737 Ismaning GERMANY	
Telephone:	+49 89 99 65 46 - 0	Telefax: +49 89 99 65 46 - 50
e-mail:	eu-sds@chesterton.com	
e-mail (Contact person):	eu-sds@chesterton.com	
Internet:	www.chesterton.com	
Responsible Department:	eu-sds@chesterton.com	

1.4. Emergency telephone number:

+49(0) 551 - 1 92 40 (GIZ-Nord, 24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Hazard categories:
Acute toxicity: Acute Tox. 4
Skin corrosion/irritation: Skin Corr. 1B
Serious eye damage/eye irritation: Eye Dam. 1
Respiratory or skin sensitisation: Skin Sens. 1
Hazard Statements:
Harmful if swallowed.
Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause an allergic skin reaction.

2.2. Label elements

Regulation (EC) No. 1272/2008

Hazard components for labelling

Diethylenetriamine (2,2'-iminodi(ethylamine))
benzyl alcohol

Signal word: Danger

Pictograms:

Hazard statements

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P310	Immediately call a doctor.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.

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 components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification according to Regulation (EC) No. 1272/2008 [CLP]			
68411-71-2	1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer (Epoxypolyaminaddukt)			10 - < 15 %
	270-141-2			
	Acute Tox. 4; H302			
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))			5 - < 10 %
	203-865-4	612-058-00-X	01-2119473793-27	
	Acute Tox. 2, Acute Tox. 4, Acute Tox. 4, Skin Corr. 1B, Skin Sens. 1, STOT SE 3; H330 H312 H302 H314 H317 H335			
100-51-6	benzyl alcohol			<5 %
	202-859-9	603-057-00-5	01-2119492630-38	
	Acute Tox. 4, Acute Tox. 4, Eye Irrit. 2; H332 H302 H319			

Full text of H and EUH statements: see section 16.

Further Information

Diethylenetriamine (2,2'-iminodi(ethylamine)): This component is toxic by inhalation if sprayed or if aerosol/mist is created. The mixture is neither present in aerosol form nor may aerosols occur.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

First aider: Pay attention to self-protection!
Take off immediately all contaminated clothing and wash it before reuse.
IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

After inhalation

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Immediately call a doctor.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Seek medical advice immediately.
Do not wash with: Solvents/Thinner

After contact with eyes

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

After ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention.

Do NOT induce vomiting.

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

Causes severe skin burns and eye damage.
Harmful if swallowed.
Skin sensitisation

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

First Aid, decontamination, treatment of symptoms.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Dry extinguishing powder. Carbon dioxide (CO2). alcohol resistant foam. Water spray jet

Unsuitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

Carbon monoxide Carbon dioxide (CO2). Nitrogen oxides (NOx)

5.3. Advice for firefighters

Special protective equipment for firefighters Protective clothing. In case of fire: Wear self-contained breathing apparatus.
Co-ordinate fire-fighting measures to the fire surroundings.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See protective measures under point 7 and 8.
Provide adequate ventilation.
Personal protection equipment: see section 8
Remove persons to safety.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. Cover drains. Adverse environmental effects

6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

See protective measures under point 7 and 8. Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

See section 8.
Wear personal protection equipment (refer to section 8).
Avoid breathing dust/fume/gas/mist/vapours/spray.
Avoid contact with skin, eyes and clothes.
Take off contaminated clothing and wash it before reuse.
Contaminated work clothing should not be allowed out of the workplace.
When using do not eat, drink or smoke.
Never use pressure to empty container. Keep/Store only in original container.
Do not allow to enter into surface water or drains.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place. Keep/Store only in original container.

Further information on storage conditions

Keep away from:
Frost
Heat
Humidity

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
111-40-0	2,2'-Iminodi(ethylamine)	1	4.3		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
409-21-2	Silicon carbide (not whiskers), total inhalable	-	10		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance			
DNEL type		Exposure route	Effect	Value
409-21-2	Silicon carbide			
Worker DNEL, acute		inhalation	systemic	94 mg/m³
Consumer DNEL, acute		inhalation	systemic	23 mg/m³
Consumer DNEL, acute		dermal	systemic	200 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	13 mg/kg bw/day
,				
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))			
Worker DNEL, long-term		inhalation	systemic	15,4 mg/m³
Worker DNEL, acute		inhalation	systemic	92,1 mg/m³
Worker DNEL, long-term		inhalation	local	0,87 mg/m³
Worker DNEL, acute		inhalation	local	2,6 mg/m³
Worker DNEL, long-term		dermal	systemic	11,4 mg/kg bw/day
Worker DNEL, long-term		dermal	local	1,1 mg/cm²
Consumer DNEL, long-term		inhalation	systemic	4,6 mg/m³
Consumer DNEL, acute		inhalation	systemic	27,5 mg/m³
Consumer DNEL, long-term		dermal	systemic	4,88 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	4,88 mg/kg bw/day
,				
100-51-6	benzyl alcohol			
Worker DNEL, long-term		inhalation	systemic	22 mg/m³
Worker DNEL, acute		inhalation	systemic	110 mg/m³
Worker DNEL, long-term		dermal	systemic	8 mg/kg bw/day
Worker DNEL, acute		dermal	systemic	40 mg/kg bw/day
Consumer DNEL, long-term		inhalation	systemic	5,4 mg/m³
Consumer DNEL, acute		inhalation	systemic	27 mg/m³
Consumer DNEL, long-term		dermal	systemic	4 mg/kg bw/day
Consumer DNEL, acute		dermal	systemic	20 mg/kg bw/day
Consumer DNEL, long-term		oral	systemic	4 mg/kg bw/day
Consumer DNEL, acute		oral	systemic	20 mg/kg bw/day
,				

PNEC values

CAS No	Substance	
Environmental compartment		Value
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))	
Freshwater		0,56 mg/l
Freshwater (intermittent releases)		0,32 mg/l
Marine water		0,056 mg/l
Freshwater sediment		1072 mg/kg
Marine sediment		107,2 mg/kg
Micro-organisms in sewage treatment plants (STP)		6 mg/l
Soil		7,97 mg/kg
100-51-6	benzyl alcohol	
Freshwater		1 mg/l
Marine water		0,1 mg/l
Freshwater sediment		5,27 mg/kg
Marine sediment		0,527 mg/kg
Micro-organisms in sewage treatment plants (STP)		39 mg/l
Soil		0,456 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation as well as local exhaustion at critical locations.

Protective and hygiene measures

Work in well-ventilated zones or use proper respiratory protection. Only wear fitting, comfortable and clean protective clothing. Avoid contact with skin, eyes and clothes. Wash hands and face before breaks and after work and take a shower if necessary.

Eye/face protection

Suitable eye protection:
Eye glasses with side protection
goggles

Hand protection

Tested protective gloves must be worn: DIN EN 374
NBR (Nitrile rubber), Butyl caoutchouc (butyl rubber)
Thickness of the glove material >= 0,4 mm
Breakthrough times and swelling properties of the material must be taken into consideration.
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Observe the wear time limits as specified by the manufacturer.

Skin protection

Protective clothing

Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.

Combination filtering device (EN 14387) A-P2

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Paste
Colour:	red
Odour:	characteristic
pH-Value:	not determined

Changes in the physical state

Melting point:	not determined
Initial boiling point and boiling range:	not determined
Flash point:	>99 °C

Flammability

Solid:	not determined
Gas:	not determined

Explosive properties

No information available.

Lower explosion limits:	not applicable
Upper explosion limits:	not applicable
Ignition temperature:	not determined

Auto-ignition temperature

Solid:	not determined
Gas:	not determined
Decomposition temperature:	not determined

Oxidizing properties

No information available.

Vapour pressure:	>1 (air=1) hPa
Density:	2,2 g/cm³
Water solubility:	Immiscible

Solubility in other solvents

No information available.

Partition coefficient:	not determined

Viscosity / dynamic:	not determined
Vapour density:	not determined
Evaporation rate:	not determined

9.2. Other information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability

Does not decompose when used for intended uses. No known hazardous decomposition products.

10.3. Possibility of hazardous reactions

Exothermic reaction with: Acid, Oxidising agent

10.4. Conditions to avoid

Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

10.5. Incompatible materials

Acid, Oxidising agent

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Harmful if swallowed.

ATEmix calculated

ATE (inhalation vapour) 8,18 mg/l; ATE (inhalation aerosol) 0,821 mg/l

CAS No	Chemical name					
	Exposure route	Dose		Species	Source	Method
68411-71-2	1,2-Ethanediamine, N-(2-aminoethyl)-, reaction products with bisphenol A diglycidyl ether homopolymer (Epoxypolyaminaddukt)					
	oral	ATE mg/kg	500			
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))					
	oral	LD50 mg/kg	ca. 1140	Rat	Study report (1957)	Conducted prior to guidelines
	dermal	LD50 mg/kg	672	Rabbit		
	inhalation vapour	ATE	0,5 mg/l			
	inhalation aerosol	ATE	0,05 mg/l			
100-51-6	benzyl alcohol					
	oral	LD50 mg/kg	1620	Rat		
	inhalation vapour	ATE	11 mg/l			
	inhalation (4 h) aerosol	LC50 mg/l	>4,178	Rat		

Irritation and corrosivity

Causes severe skin burns and eye damage.

Sensitising effects

May cause an allergic skin reaction. (Diethylenetriamine (2,2'-iminodi(ethylamine)))

Carcinogenic/mutagenic/toxic effects for reproduction

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

STOT-single exposure

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

STOT-repeated exposure

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

Aspiration hazard

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

SECTION 12: Ecological information

12.1. Toxicity

CAS No	Chemical name						
	Aquatic toxicity	Dose		[h] | [d]	Species	Source	Method
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))						
	Acute fish toxicity	LC50	430 mg/l	96 h	Poecilia reticulata	Study report (1989)	EU Method C.1
	Acute algae toxicity	ErC50	1164 mg/l	72 h	Pseudokirchneriella subcapitata	Study report (1990)	OECD Guideline 201
	Acute crustacea toxicity	EC50	64,6 mg/l	48 h	Daphnia magna	Study report (1989)	EU Method C.2
	Fish toxicity	NOEC	> 10 mg/l	28 d	Gasterosteus aculeatus	Study report (1992)	OECD Guideline 210
	Crustacea toxicity	NOEC	5,6 mg/l	21 d	Daphnia magna	Study report (1992)	EU Method C.20
	Acute bacteria toxicity	(32,7 mg/l)		3 h	nitrifying bacteria	Study report (1989)	other: Blok, 1974; Respirometric measure
100-51-6	benzyl alcohol						
	Acute fish toxicity	LC50	460 mg/l	96 h			
	Acute algae toxicity	ErC50	770 mg/l	72 h			
	Acute crustacea toxicity	EC50	230 mg/l	48 h	Daphnia magna (Big water flea)		
	Algea toxicity	NOEC	51 mg/l	3 d			
	Crustacea toxicity	NOEC	310 mg/l	21 d			

12.2. Persistence and degradability

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
100-51-6	benzyl alcohol			
	OECD 301A/ ISO 7827/ EEC 92/69/V, C.4-A	95 - 97%	21	

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))	-1,58
100-51-6	benzyl alcohol	1,1

BCF

CAS No	Chemical name	BCF	Species	Source
111-40-0	Diethylenetriamine (2,2'-iminodi(ethylamine))	> 2,8	Cyprinus carpio	Publication (1992)
100-51-6	benzyl alcohol	1		

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation.

Contaminated packaging

Non-contaminated packages may be recycled. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:	UN 3259
14.2. UN proper shipping name:	AMINES, SOLID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C8
Special Provisions:	274
Limited quantity:	5 kg
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

Inland waterways transport (ADN)

14.1. UN number:	UN 3259
14.2. UN proper shipping name:	AMINES, SOLID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Classification code:	C8
Special Provisions:	274
Limited quantity:	5 kg
Excepted quantity:	E1

Marine transport (IMDG)

14.1. UN number:	UN 3259
14.2. UN proper shipping name:	AMINES, SOLID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Special Provisions:	223, 274
Limited quantity:	5 kg
Excepted quantity:	E1
EmS:	F-A, S-B
Segregation group:	alkalis

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number:	UN 3259
14.2. UN proper shipping name:	AMINES, SOLID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE)
14.3. Transport hazard class(es):	8
14.4. Packing group:	III
Hazard label:	8
Special Provisions:	A3 A803
Limited quantity Passenger:	5 kg
Passenger LQ:	Y845
Excepted quantity:	E1
IATA-packing instructions - Passenger:	860
IATA-max. quantity - Passenger:	25 kg
IATA-packing instructions - Cargo:	864
IATA-max. quantity - Cargo:	100 kg

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

14.6. Special precautions for user

No information available.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No information available.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulatory information

Water contaminating class (D): 2 - clearly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
Silicon carbide
Diethylenetriamine (2,2'-iminodi(ethylamine))

benzyl alcohol

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 2.

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID:Règlement international conernat le transport des marchandises dangereuses par chemin de fer
(Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Refulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
CAS: Chemical Abstracts Service (division of the American Chemical Society)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CLP: Regulation on Classification, Labelling and Packaging of Substances and Mixtures,
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
EC50: Effectice concentration, 50 percent
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

Classification	Classification procedure
Acute Tox. 4; H302	
Skin Corr. 1B; H314	Calculation method
Eye Dam. 1; H318	Calculation method
Skin Sens. 1; H317	Calculation method

Relevant H and EUH statements (number and full text)

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Further Information

This information is based solely on data privided 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.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)