

	SAFETY DATA SH in accordance with 29 CFR 1910.1	
Revision date: 20 Augu	t 2024 Date of previous issue: 24 S	September 2020 SDS No. 447A-5
SECTION 1: IDENTIFICA	ON OF THE SUBSTANCE/MIXTURE AND	OF THE COMPANY/UNDERTAKING
1.1. Product identifier		
ARC I BX1 (Part A)		
1.2. Relevant identified us	es of the substance or mixture and uses a	dvised against
Relevant identified uses:	ARC Polymer Composite. Repair damage of worn areas; fill holes and cracks; provide all	caused by impact, abrasion, erosion or corrosion; rebuild abrasion resistant surfaces.
Uses advised against:	No information available	
Reason why uses advise	against: Not applicable	
1.3. Details of the supplie	of the safety data sheet	
Company: A.W. CHESTERTON COM 860 Salem Street Groveland, MA 01834-150 Tel. +1 978-469-6446 (Mon Fri. 8:30 - 5:00 PM SDS requests: <u>www.cheste</u> E-mail (SDS questions): <u>Pr</u> E-mail: <u>customer.service@</u>	USA ST) <u>ton.com</u> <u>ductSDSs@chesterton.com</u>	
Unit 105, Burlington, Ontar	ompany Ltd., 889 Fraser Drive, L7L 4X8 – Tel. 905-335-5055	
1.4. Emergency telephon		
24 hours per day, 7 days p Call Infotrac: 1-800-535-50 Outside N. America: +1 35	3	
SECTION 2: HAZARDS II	INTIFICATION	
2.1. Classification of the	ibstance or mixture	
2.1.1. Classification acco	ling to 29 CFR 1910.1200 / WHMIS 2022	
Reproductive toxicity, Cate Skin irritation, Category 2, Skin sensitization, Categor Eye irritation, Category 2, H Hazardous to the aquatic e	315 1, H317	
2.1.2. Additional informat	'n	
For full text of H-statements	see SECTIONS 2.2 and 16.	
2.2. Label elements		
Labeling according to 29	FR 1910.1200 / WHMIS 2022	
Hazard pictograms:		
Signal word:	Warning	
Hazard statements:	-	ation.

© A.W. Chesterton Company, 2024 All Rights Reserved. ® Registered trademark owned by A.W. Chesterton Company in USA and other countries unless otherwise noted.

Precautionary statements:	P201 P202 P261 P264 P272 P273 P280 P302/352 P305/351/338 P308/313 P362/364 P501	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing vapours. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/clothing and eye/face protection. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Dispose of contents/container to an approved waste disposal plant.
Supplemental information:	None	

2.3. Other hazards

This products contains a blocked polyisocyanate which is considered essentially unreactive at room temperature. Generation of free diisocyanate and blocking agent vapors is expected during any heating of this product above its unblocking temperature (120°C [248°F]). The safety and health hazards are detailed separately for Part A and Part B. During the curing process, alkylphenol will be split off. No isocyanate could be traced within the coating during curing. The final cured material is considered nonhazardous. Upon machining, refer to the precautions in the safety data sheets for Part A and Part B. 4-Nonylphenol, branched: substance identified as having endocrine disrupting properties.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS 3.2. Mixtures % Wt. CAS No. Hazardous Ingredients¹ Epoxy resin (number average molecular weight <= 10-20 1675-54-3 700) and 9003-36-5* Butanedioldiglycidyl ether 0.1-0.9 2425-79-8 4-Nonylphenol, branched 0.1-0.2 84852-15-3 Other inaredients: Aluminum oxide 45-55 1344-28-1 Silicon carbide 10-20 409-21-2 Alkyl phenol blocked polyisocyanate 1-5 Silica (Quartz) 0.1-0.6 14808-60-7 *Alternative CAS No: 28064-14-4. **Applies to CAS no. 1675-54-3 only. ***Substance with a workplace exposure limit. ¹ Classified according to: • 29 CFR 1910.1200, 1915, 1916, 1917, Mass. Right-to-Know Law (ch. 40, M.G.L..O. 111F)

• WHMIS 2022, GHS

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 immediately. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.

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. Generation of free diisocyanate and blocking agent vapors is expected during any heating of this product above its unblocking temperature. The inhalation hazards in this section apply to the free diisocyanate and blocking agent vapors thus produced. Vapors or mist can irritate the respiratory tract causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a pre-existing, nonspecific bronchial hyperreactivity can respond to lower concentrations with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure to higher concentrations may lead to bronchitis, bronchial spasm and pulmonary oedema. Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible. Repeated overexposure or a single large dose by inhalation (including breathing offgases generated during heat curing) can cause respiratory sensitization as evidenced by chest tightness, wheezing, shortness of breath or asthmatic attack. These symptoms can be immediate or delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening. Once sensitized, symptoms can occur upon exposure to dust, cold air or other irritants. Sensitization can be permanent. Chronic overexposure to diisocyanates has been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

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

Treat symptoms.

SECTION 5: FIRE-FIGHTING MEASURES			
5.1. Extinguishing media			
Suitable extinguishing media:	Carbon dioxide, dry chemical, foam, or water fog		
Unsuitable extinguishing media:	High volume water jet		
5.2. Special hazards arising from the substance or mixture			
Hazardous combustion products:	At temperatures greater than 177°C (350°F), carbon dioxide is released which can cause pressure build-up in closed containers which may forcibly rupture under extreme heat or when contents are mixed with water. During a fire, isocyanate vapours and other irritatin highly toxic gases may be generated by thermal decomposition or combustion. Exposure heated diisocyanate can be extremely dangerous.		
Other hazards: None noted			
5.3. Advice for firefighters			
Cool expressed containers with water. Decommend Firefighters wear colf contained breathing apparetus			

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

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 all skin contact. Avoid breathing vapors. Utilize exposure controls and personal protection as specified in Section 8. Warning properties (irritation of eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. Keep container tightly closed when not in use. 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.

Health risks with handling these ARC Composites are further reduced as Part A:

- contains a mixture of 100% blocked isocyanate, with a blend of polymers such as epoxy resin.
- is a gritty paste that cannot be inhaled.
- should never see exposures to temperatures of 120°C (248°F) under normal storage and use-conditions, thereby minimizing risk of unblocking.
- when mixed with Part B components, cannot generate an exothermic reaction temperature anywhere near the 120° (248°F) blocking limit.

Medical Surveillance: While health risks are reduced when using a blocked isocyanate, it is best practice to implement a proper protective equipment program supported by a medical surveillance program for workers using isocyanates (blocked or unblocked). All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. Applicants with a history of prior isocyanate sensitization should be excluded from further work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who are potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted.

7.2. Conditions for safe storage, including any incompatibilities

Store in a cool, dry area (10°C to 32°C (50°F to 90°F), out of direct sunlight).

7.3. Specific end use(s)

No special precautions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limit values

Ingredients			ACGIH TLV ²	
	ppm	mg/m³	ppm	mg/m³
Epoxy resin (number average molecular weight <= 700)	N/A	N/A	N/A	N/A
Butanedioldiglycidyl ether	N/A	N/A	N/A	N/A
4-Nonylphenol, branched	N/A	N/A	N/A	N/A
Aluminum oxide	(total)	15	(resp.)	1
	(resp.)	5		
Silicon carbide	(total)	15	(total)	10
	(resp.)	5	(resp.)	3
Alkyl phenol blocked polyisocyanate	N/A	N/A	N/A	N/A
Silica (Quartz)	(resp.)	0.05	(resp.)	0.025
	(total)	0.3		

¹ United States Occupational Health & Safety Administration permissible exposure limits ² American Conference of Governmental Industrial Hygienists threshold limit values

Biological limit values

No biological exposure limits noted for the ingredient(s).

8.2. Exposure controls

8.2.1. Engineering measures

Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Exhaust air (including curing oven offgases) may need to be cleaned by scrubbers or filters to reduce environmental contamination. 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:	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. If a fire or a process upset results in heating above 120°C (248°F), workers must wear positive pressure, air-supplied respirators since airborne TDI may be generated under these conditions.
Protective gloves:	Chemical resistant gloves (e.g., nitrile rubber, butyl rubber, neoprene, PVC)
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

	elear and enernear properties				
Physical state	gritty paste	pH	not applicable		
Colour	blue	Kinematic viscosity	1.4 million cSt @25°C (calculated)		
Odour	sweet	Solubility in water	insoluble		
Odour threshold	not determined	Partition coefficient n-octanol/water (log value)	not applicable		
Boiling point or range	not determined	Vapour pressure @ 20°C	not determined		
Melting point/freezing point	not determined	Density and/or relative density	2.93 kg/l		
% Volatile (by volume) Flammability	0% not determined	Weight per volume Vapour density (air=1)	24.35 lbs/gal. > 1		
Lower/upper flammability	not determined	Rate of evaporation (ether=1)	< 1		
or explosion limits		,			
Flash point	192°C (378°F)	% Aromatics by weight	0%		
Method	PM Closed Cup not determined	Particle characteristics Explosive properties	not applicable		
Autoignition temperature Decomposition	not determined	Oxidising properties	not applicable not applicable		
temperature	not dotominou				
9.2. Other information					
Unblocking temperature: 120°C Dynamic viscosity: 4 million cP	C (248°F). VOC (EPA 24): 0.11 lb s @ 25°C	s/gal.			
	<u> </u>				
SECTION 10: STABILITY AN 10.1. Reactivity	DREACTIVITY				
-					
	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					
Blocking agent and toluene diis	Blocking agent and toluene diisocyanate are released at temperatures above 120°C (248°F).				
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, Carbon Diox	kide, aldehydes, acids, Hydrogen	Cyanide and other toxic fumes (by	combustion).		
SECTION 11: TOXICOLOGIC					
11.1. Information on toxicolo	gical effects				
Primary route of exposure under normal use:					

Acute toxicity -

Date: 20 August 2024

Oral:	If ingested, may cause gastrointestinal dis	sturbances such as nausea,	vomiting and diarrhea.
	Substance	Test	Result
	Epoxy resin	LD50, rat	> 5000 mg/kg
	4-Nonylphenol, branched & Alkyl phenol blocked polyisocyanate	LD50, rat	> 5000 mg/kg
	4-Nonylphenol, branched	LD50, rat	1412 mg/kg
	Butanedioldiglycidyl ether	LD50, rat	1163 mg/kg
	Aluminum oxide	LD50, rat	> 5,000 mg/kg
	Silicon carbide	NOAEL, rat	2,000 mg/kg
Dermal:		,	
	Substance	Test	Result
	Epoxy resin	LD50, rabbit	> 3000
	4-Nonylphenol, branched	LD50, rabbit	2031 mg/kg
	Butanedioldiglycidyl ether	LD50, rabbit	> 2150 mg/kg
	Silicon carbide	NOAEL, rat	2,000 mg/kg
Inhalation:	Generation of free diisocyanate and block		
	hyperreactivity can respond to lower conc attack or asthma-like symptoms. Exposur bronchial spasm and pulmonary oedema. symptoms (e.g., fever, chills), has been re hours after exposure. These effects are u	e to higher concentrations n Chemical or hypersensitivit eported. These symptoms ca	nay lead to bronchitis, y pneumonitis, with flu-l
		-	Deput
	Substance	Test	Result
	Epoxy resin	LC0, rat, 5-8 h	No mortality at vapo saturation level
	Butanedioldiglycidyl ether	ATE	1.5 mg/l (mist)
kin corrosion/irritation:	Causes skin irritation.		
	Substance	Test	Result
	Epoxy resin	Skin irritation, rabbit	Moderate irritation
	4-Nonylphenol, branched & Alkyl phenol blocked polyisocyanate	Skin irritation, rabbit (OECD 404)	No skin irritation
	4-Nonylphenol, branched	Skin irritation, Skin irritation, rabbit (OECD 404)	Corrosive
erious eye damage/ ritation:	Causes serious eye irritation.		
	Substance	Test	Result
	Epoxy resin	Eye irritation, rabbit	Moderate irritation
	4-Nonylphenol, branched & Alkyl	Eye irritation, rabbit	Slightly irritating
	phenol blocked polyisocyanate	(OECD 405)	
	4-Nonylphenol, branched	Eye irritation, rabbit (OECD 405)	Corrosive
espiratory or skin ensitisation:	May cause skin sensitization as evidence		
	Substance	Test	Result
	Epoxy resin	Skin sensitization, guinea pig	Sensitizing
	4-Nonyl phenol & Alkyl phenol blocked polyisocyanate	Skin sensitization, mouse (OECD 429)	Not sensitizing
	4-Nonyl phenol	Skin sensitization, guinea pig	Not sensitizing
	Butanedioldiglycidyl ether	Skin sensitization,	Sensitizing

© A.W. Chesterton Company, 2024 All Rights Reserved. ® Registered trademark owned by A.W. Chesterton Company in USA and other countries unless otherwise noted. Page 6 of 9

guinea pig

Other information:	None known
Aspiration hazard:	Based on available data, the classification criteria are not met.
STOT – repeated exposure:	Epoxy resin, Butanedioldiglycidyl ether, Aluminum oxide, Silicon carbide: based on available data, the classification criteria are not met. Chronic overexposure to diisocyanates has been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent. Repeated inhalation of respirable free silica may cause scarring of the lungs with cough and shortness of breath. Silicosis, a delayed lung injury that is a disabling, progressive and sometimes fatal pulmonary fibrosis, may result. The silica in this product does not separate from the mixture or in of itself become air-borne, therefore it does not present a hazard in normal use.
STOT – single exposure:	Epoxy resin, Butanedioldiglycidyl ether, Aluminum oxide, Silicon carbide: based on available data, the classification criteria are not met.
Reproductive toxicity:	Epoxy resin, Aluminum oxide, Silicon carbide: based on available data, the classification criteria are not met. Butanedioldiglycidyl ether: data lacking. 4-Nonylphenol, branched: Suspected of damaging fertility. Suspected of damaging the unborn child.
Carcinogenicity:	The International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) have classified inhaled silica as a human carcinogen. The silica in this product does not separate from the mixture or in of itself become air-borne, therefore it does not present a hazard in normal use. Epoxy resin: based on available data, the classification criteria are not met. Butanedioldiglycidyl ether: data lacking.
Germ cell mutagenicity:	Epoxy resin, 4-Nonylphenol, branched, Butanedioldiglycidyl ether, Aluminum oxide, Silicon carbide: based on available data, the classification criteria are not met. Alkyl phenol blocked polyisocyanate, Ames test: negative.

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: moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/l in the most sensitive species). 4-Nonylphenol, branched & Alkyl phenol blocked polyisocyanate: LC50/EC50/ErC50 > 100 mg/l in the most sensitive species.

12.2. Persistence and degradability

Unreacted components (Parts A and B), improperly released to the environment, can cause ground and water pollution. Epoxy resin, Butanedioldiglycidyl ether, Alkyl phenol blocked polyisocyanate, 4-Nonylphenol, branched: not readily biodegradable. Aluminum oxide, Silicon carbide, Silica: inorganic substances.

12.3. Bioaccumulative potential

Epoxy resin: log Kow = 2.64 - 3.78; BCF = 31 (QSAR); low potential for bioaccumulation. 4-Nonylphenol, branched: may bioaccumulate in fish and aquatic organisms (log Kow = 3.28; BCF, Fathead minnow, 20 days = 271).

12.4. Mobility in soil

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

12.5. Endocrine disrupting properties

4-Nonylphenol, branched: substance identified as having endocrine disrupting properties.

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

SECTION 14: TRANSPORT INFORMATION		
14.1. UN number or ID number		
RID/IMDG/ICAO:	NOT APPLICABLE	
TDG:	NOT APPLICABLE	
US DOT:	NOT APPLICABLE	
14.2. UN proper shipping name		
RID/IMDG/ICAO:	NON-HAZARDOUS, NON REGULATED	

© A.W. Chesterton Company, 2024 All Rights Reserved. ® Registered trademark owned by A.W. Chesterton Company in USA and other countries unless otherwise noted.

SDS No. 447A-5

TDO.	
TDG:	NON-HAZARDOUS, NON REGULATED
US DOT:	NON-HAZARDOUS, NON REGULATED
-	hazard class(es)
RID/IMDG	/ICAO: NOT APPLICABLE NOT APPLICABLE
TDG: US DOT:	NOT APPLICABLE
14.4. Packing gr	
	-
RID/IMDG TDG:	/ICAO: NOT APPLICABLE NOT APPLICABLE
US DOT:	NOT APPLICABLE
14.5. Environme	
NOT APPLI	
-	ecautions for user
NOT APPLI	
14.7. Maritime tr	ansport in bulk according to IMO instruments
NOT APPLI	
14.8. Other infor	
NOT APPLI	
SECTION 15: R	EGULATORY INFORMATION
• ·	Ith and environmental regulations/legislation specific for the substance or mixture
15.1.1. National	
US EPA SARA T	
312 Hazards:	Chemicals subject to reporting requirements of Section 313 of EPCRA and of 40 CFR 372:
Reproductive tox	icity 4-Nonylphenol, branched Below de minimis concentration
Skin irritation	
Eye irritation Skin sensitizatior	
TSCA: All chemic	al components are listed or exempted.
Other national re	egulations: None
SECTION 16: O	THER INFORMATION
Abbreviations	ATE: Acute Toxicity Estimate
and acronyms:	ATE. Acule Toxicity Estimate
	BCF: Bioconcentration Factor
and doronymo.	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate
and doronymo.	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate ES: Exposure Standard
and doronymo.	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate ES: Exposure Standard GHS: Globally Harmonized System
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate ES: Exposure Standard GHS: Globally Harmonized System ICAO: International Civil Aviation Organization
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate ES: Exposure Standard GHS: Globally Harmonized System ICAO: International Civil Aviation Organization IMDG: International Maritime Dangerous Goods
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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
and doronymo.	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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
and doronymo.	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 Applicable NOEC: No Observed Effect Concentration NOEL: No Observed Effect Level OECD: Organization for Economic Co-operation and Development (Q)SAR: Quantitative Structure-Activity Relationship REL: Recommended Exposure Limit
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 (Q)SAR: Quantitative Structure-Activity Relationship REL: Recommended Exposure Limit RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 Applicable NOEC: No Observed Effect Concentration NOEL: No Observed Effect Level OECD: Organization for Economic Co-operation and Development (Q)SAR: Quantitative Structure-Activity Relationship REL: Recommended Exposure Limit RID: Regulations concerning the International Carriage of Dangerous Goods by Rail SDS: Safety Data Sheet
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 Applicable NA: Not Available NOEC: No Observed Effect Concentration NOEL: No Observed Effect Concentration NOEL: No Observed Effect Level OECD: Organization for Economic Co-operation and Development (Q)SAR: Quantitative Structure-Activity Relationship REL: Recommended Exposure Limit RID: Regulations concerning the International Carriage of Dangerous Goods by Rail SDS: Safety Data Sheet STEL: Short Term Exposure Limit
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 Applicable NOEC: No Observed Effect Concentration NOEL: No Observed Effect Level OECD: Organization for Economic Co-operation and Development (Q)SAR: Quantitative Structure-Activity Relationship 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 (Q)SAR: Quantitative Structure-Activity Relationship 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 Concentration NOEL: No Observed Effect Level OECD: Organization for Economic Co-operation and Development (Q)SAR: Quantitative Structure-Activity Relationship 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)
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 Applicable NA: Not Available NOEC: No Observed Effect Concentration NOEL: No Observed Effect Level OECD: Organization for Economic Co-operation and Development (Q)SAR: Quantitative Structure-Activity Relationship 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 Applicable NOEC: No Observed Effect Concentration NOEL: No Observed Effect Concentration NOEL: No Observed Effect Level OECD: Organization for Economic Co-operation and Development (Q)SAR: Quantitative Structure-Activity Relationship 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
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 Applicable NOEC: No Observed Effect Concentration NOEL: No Observed Effect Concentration OECD: Organization for Economic Co-operation and Development (Q)SAR: Quantitative Structure-Activity Relationship 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 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 WHMIS: Workplace Hazardous Materials Information System
	BCF: Bioconcentration Factor cATpE: Converted Acute Toxicity point Estimate 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 Applicable NOEC: No Observed Effect Concentration NOEL: No Observed Effect Concentration NOEL: No Observed Effect Level OECD: Organization for Economic Co-operation and Development (Q)SAR: Quantitative Structure-Activity Relationship 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

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) U.S. National Library of Medicine Toxicology Data Network (TOXNET) Procedure used to derive the classification for mixtures according to GHS:		
Classification	Classification procedure	
Repr. 2, H361fd	Calculation method	
Skin Irrit. 2, H315	Calculation method	
Skin Sens. 1, H317	Calculation method	
Eye Irrit. 2, H319	Calculation method	
Aquatic Chronic 3, H412	Calculation method	
Aquatic Chronic 3, H412 Calculation method Relevant H-statements: H315: Causes skin irritation. H317: May cause an allergic skin reaction. H318: Causes serious eye damage. H319: Causes serious eye irritation. H302/312/332: Harmful if swallowed, in contact with skin or if inhaled. H314: Causes severe skin burns and eye damage. H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects. H411: Toxic to aquatic life with long lasting effects. H412: Harmful to aquatic life with long lasting effects.		
Further information: None		
Date of last revision: 20 Aug	just 2024	
Changes to the SDS in this rev	rision: Complete change to represent new formulation.	
	ata provided by suppliers of the materials used, not on the mixture itself. No warranty is expressed or implied t for the user's particular purpose. The user must make their own determination as to suitability.	