

SAFETY DATA SHEET

in accordance with 2020/878/EU (REACH, Annex II) 29 CFR 1910.1200, WHMIS 2015 and Safe Work Australia

Revision date: 26 September 2023 **Date of previous issue:** 14 December 2018 **SDS No.** 472A-2

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

1.1. Product identifier

ARC S5 (Part A) (LTGY, MDGY)

Unique Formula Identifier (UFI): Not available

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

Relevant identified uses: Combined with ARC S5 (Part B), for use as a thin film coating on properly prepared surfaces for high temperature applications.

Uses advised against: No information available

Reason why uses advised against: Not applicable

1.3. Details of the supplier of the safety data sheet

Company:

A.W. CHESTERTON COMPANY
860 Salem Street
Groveland, MA 01834-1507, USA
Tel. +1 978-469-6446 Fax: +1 978-469-6785
(Mon. - Fri. 8:30 - 5:00 PM EST)
SDS requests: www.chesterton.com
E-mail (SDS questions): ProductSDSs@chesterton.com
E-mail: customer.service@chesterton.com

Supplier:

Canada: A.W. Chesterton Company Ltd., 889 Fraser Drive,
Unit 105, Burlington, Ontario L7L 4X8 – Tel. 905-335-5055
EU: Chesterton International GmbH, Am Lenzenfleck 23,
D85737 Ismaning, Germany – Tel. +49-89-996-5460

1.4. Emergency telephone number

24 hours per day, 7 days per week
Call Infotrac: 1-800-535-5053
Outside N. America: +1 352-323-3500 (collect)
NSW Poisons Information Centre (Australia): 13 11 26

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Classification according to Regulation (EC) No 1272/2008 [CLP] / 29 CFR 1910.1200 / WHMIS 2015 / Safe Work Australia / GHS

Skin irritation, Category 2, H315
Skin sensitization, Category 1, H317
Serious eye damage, Category 1, H318
Hazardous to the aquatic environment, Chronic, Category 2, H411

2.1.2. Additional information

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

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP] / 29 CFR 1910.1200 / WHMIS 2015 / Safe Work Australia / GHS

Hazard pictograms:



Signal word:

Danger

Hazard statements:	H318	Causes serious eye damage.
	H315	Causes skin irritation.
	H317	May cause an allergic skin reaction.
	H411	Toxic to aquatic life with long lasting effects.
Precautionary statements:	P261	Avoid breathing mist/vapours.
	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.
	P310	Immediately call a POISON CENTER or doctor.
	P333/313	If skin irritation or rash occurs: 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. 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 Ingredients ¹	% Wt.	CAS No./ EC No.	REACH Reg. No.	CLP/GHS Classification	SCL, M-factor, ATE
Epoxy resin (number average molecular weight <= 700)	25-35	9003-36-5 * 500-006-8	NA	Skin Irrit. 2, H315 Skin Sens. 1, H317 Aquatic Chronic 2, H411	ATE (oral): 5,000 mg/kg ATE (dermal): > 2,000 mg/kg
Glycidoxypropyltrimethoxysilane	5-10	2530-83-8 219-784-2	NA	Eye Dam. 1, H318	ATE (oral): 8,025 mg/kg ATE (dermal): 4,248 mg/kg ATE (inhalation, mist): > 5.3. mg/l
2-Methoxy-1-methylethyl acetate	0.1-0.5	108-65-6 203-603-9	NA	Flam. Liq. 3, H226* STOT SE 3, H336	ATE (oral): 5,155 mg/kg ATE (dermal): > 5,000 mg/kg
Other ingredients: Calcium carbonate	10-20	1317-65-3 215-279-6	NA	Not classified *	ATE (oral): > 2,000 mg/kg ATE (dermal): > 2,000 mg/kg ATE (inhalation, dust): > 3 mg/l
Aluminum oxide	10-20	1344-28-1 215-691-6	NA	Not classified **	ATE (oral): 5,000 mg/kg
Silica (Quartz)	1-3	14808-60-7 238-878-4	NA	Not classified **	NA
Titanium dioxide	1-3	13463-67-7 236-675-5	NA	Not classified ** ^a	ATE (oral): 10,000 mg/kg ATE (dermal): > 10,000 mg/kg ATE (inhalation, dust): > 6.82 mg/l

* Alternative CAS No: 28064-14-4. **Substance with a workplace exposure limit.

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

For full text of H-statements: see 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 skin with soap and water. Contact physician if irritation persists.

Eye contact: Flush eyes for at least 15 minutes with large amounts of water. Contact physician if irritation persists.

Ingestion: Do not induce vomiting. Contact physician immediately.

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. Avoid breathing dust/vapours/spray. See section 8.2.2 for recommendations on personal protective equipment.

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

Causes serious eye damage. Causes skin irritation. May cause skin sensitization as evidenced by rashes or hives. High vapor concentrations resulting from heating or spraying can cause eye and respiratory tract irritation.

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

Treat symptoms.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Carbon dioxide, dry chemical, foam or water fog

Unsuitable extinguishing media: None known

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon Monoxide, aldehydes, oxides of Silicon and other toxic fumes.

Other hazards: None

5.3. Advice for firefighters

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

Australian HAZCHEM Emergency Action Code: 2 Z

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid skin contact. Utilize exposure controls and personal protection as specified in Section 8.

6.2. Environmental Precautions

Keep out of sewers, streams and waterways.

6.3. Methods and material for containment and cleaning up

Scoop up and transfer to a suitable container for disposal.

6.4. Reference to other sections

Refer to section 13 for disposal advice.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Utilize exposure controls and personal protection as specified in Section 8. Wash thoroughly after handling. 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. Keep from freezing.

7.3. Specific end use(s)

No special precautions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1. Control parameters****Occupational exposure limit values**

Ingredients	OSHA PEL ¹		ACGIH TLV ²		UK WEL ³		AUSTRALIA ES ⁴	
	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³	ppm	mg/m ³
Epoxy resin (number average molecular weight <= 700)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Glycidoxypropyltrimethoxysilane*	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2-Methoxy-1-methylethyl acetate	N/A	N/A	N/A	N/A	50 STEL: 100	274 STEL: 548	50 STEL: 100	274 548
Calcium carbonate	(total) (resp.)	15 5	**	10 (inhal.) 3 (resp.)	N/A	10 (inhal.) 4 (resp.)	N/A	10
Aluminum oxide	(total) (resp.)	15 5	(resp.)	1 (resp.)	(inhal.) (resp.)	10 4	(insp.)	10
Silica (Quartz)	(total) (resp.)	0.3 0.05	(resp.)	0.025	(resp.)	0.1	(resp.)	0.05
Titanium dioxide	N/A	15	N/A	10	(total) (resp.)	10 4	N/A	10

*Recommended exposure limit: 0.5 ppm (8-hr TWA)

**Particles Not Otherwise Specified (PNOS)

¹ United States Occupational Health & Safety Administration permissible exposure limits² American Conference of Governmental Industrial Hygienists threshold limit values³ EH40 Workplace exposure limits, Health & Safety Executive⁴ Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants**Biological limit values**

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

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

Substance	Route of exposure	Potential health effects	DNEL
Epoxy resin (number average molecular weight <= 700)	Inhalation	Acute effects, local / Acute effects, systemic	no data available
		Chronic effects, local	no data available
		Chronic effects, systemic	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 bw/day
Glycidoxypropyltrimethoxysilane	Inhalation	Chronic effects, systemic	147 mg/m ³
2-Methoxy-1-methylethyl acetate	Inhalation	Chronic effects, systemic	275 mg/m ³
Aluminum oxide	Inhalation	Chronic effects, local, Chronic effects, systemic	15.63 mg/m ³
Titanium dioxide	Inhalation	Chronic effects	10 mg/m ³

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

Substance	Environmental protection target	PNEC
Epoxy resin (number average molecular weight <= 700)	Fresh water	0.003 mg/l
	Marine water	0.0003 mg/l
	Water, intermittent release	0.0254 mg/l
	Freshwater sediments	0.294 mg/kg
	Marine sediments	0.0294 mg/kg
	Microorganisms in sewage treatment	10 mg/l
Titanium dioxide	Soil (agricultural)	0.237 mg/kg
	Fresh water	0.184 mg/l
	Marine water	0.0184 mg/l
	Water	0.193 mg/l
	Freshwater sediments	1,000 mg/kg
	Marine sediments	100 mg/kg
	Microorganisms in sewage treatment	100 mg/l
	Soil (agricultural)	100 mg/kg

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

Provide sufficient ventilation to keep the vapor concentrations below the exposure limits. If necessary, provide local exhaust. If it is necessary to alter the final cured product such that dust may be generated, use adequate dust extraction or damp down.

8.2.2. Individual protection measures

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment (e.g., a half or full-face respirator with combined dust/organic vapour filter). Use positive pressure, supplied-air respirators if there is a potential for uncontrolled release, if exposure levels are unknown, or under circumstances where air-purifying respirators may not provide adequate protection.

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

Eye and face protection: Full face shield with goggles underneath.

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	paste	pH	not applicable
Colour	light gray, medium gray	Kinematic viscosity	383,000 cSt @ 25°C
Odour	sweet	Solubility in water	slightly soluble
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	1.83 kg/l
% Volatile (by volume)	none	Weight per volume	
Flammability	not determined	Vapour density (air=1)	> 1
Lower/upper flammability or explosion limits	not determined	Rate of evaporation (ether=1)	< 1
Flash point	122°C (255°F)	% Aromatics by weight	none
Method	component data	Particle characteristics	not applicable
Autoignition temperature	not determined	Explosive properties	not determined
Decomposition temperature	not determined	Oxidising properties	not determined

9.2. Other information

None

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

Refer to sections 10.3 and 10.5.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

No dangerous reactions known under conditions of normal use.

10.4. Conditions to avoid

Open flames and high temperatures.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Carbon Monoxide, aldehydes and other toxic fumes. May generate Formaldehyde at temperatures greater than 150°C (300°F). Hydrolyzes in water or moist air, releasing methanol and organosilicons.

SECTION 11: TOXICOLOGICAL INFORMATION**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008 / GHS**

Primary route of exposure under normal use: Inhalation, skin and eye contact. Personnel with pre-existing skin or lung allergies may be aggravated by exposure.

Acute toxicity -**Oral:**

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

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LD50, rat	> 5,000 mg/kg
Calcium carbonate	LD50, rat	> 2,000 mg/kg
Aluminum oxide	LD50, rat	> 5,000 mg/kg
Glycidoxypropyltrimethoxysilane	LD50, rat	7.5 ml/kg
Titanium dioxide	LD50, rat	> 10,000 mg/kg

Dermal:

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

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LC50, rabbit	> 3,000 mg/kg
Calcium carbonate	LD50, rat	> 2,000 mg/kg
Glycidoxypropyltrimethoxysilane	LD50, rabbit	3.97 ml/kg
Titanium dioxide	LC50, rabbit	> 10,000 mg/kg

Inhalation:

High vapor concentrations resulting from heating or spraying can cause eye and respiratory tract irritation.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	LC50, rat	> 1.7 mg/l/4 h (aerosol)
Calcium carbonate	LD50, rat	> 3 mg/l (dust)
Glycidoxypropyltrimethoxysilane	LC50, rat, 4 h, aerosol	> 5.3 mg/L

Skin corrosion/irritation:

Causes skin irritation.

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

Serious eye damage/irritation:

Causes serious eye damage.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Eye irritation, rabbit	Slightly irritating
Glycidoxypropyltrimethoxysilane	Eye irritation, rabbit	Corneal injury

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
Glycidoxypropyltrimethoxysilane	Human repeat insult patch test (HRIPT)	Not sensitizing
Glycidoxypropyltrimethoxysilane	Skin sensitization, guinea pig	Not sensitizing

Germ cell mutagenicity:

Epoxy resin (number average molecular weight <= 700), Glycidoxypropyltrimethoxysilane: based on available data, the classification criteria are not met.

Carcinogenicity:

The International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP) have classified inhaled silica as a human carcinogen. IARC has designated inhaled titanium dioxide as possibly carcinogenic to humans (group 2B). The silica and titanium dioxide in this product do not separate from the mixture or in of themselves become airborne, therefore, do not present a hazard in normal use.

Reproductive toxicity:

Epoxy resin (number average molecular weight <= 700), Glycidoxypropyltrimethoxysilane: based on available data, the classification criteria are not met.

STOT – single exposure:

Epoxy resin (number average molecular weight <= 700), Glycidoxypropyltrimethoxysilane: based on available data, the classification criteria are not met.

STOT – repeated exposure:

Epoxy resin (number average molecular weight <= 700), Glycidoxypropyltrimethoxysilane: based on available data, the classification criteria are not met. 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.

Substance	Test	Result
Epoxy resin (number average molecular weight <= 700)	Sub-chronic NOAEL, oral, 90 days, rat, male / female (OECD 408)	250 mg/kg

Aspiration hazard:

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

11.2. Information on other hazards

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

Toxic to aquatic life with long lasting effects. LC50/EC50 between 1 and 10 mg/l in the most sensitive species, based on data from similar materials.

12.2. Persistence and degradability

Unreacted components (Parts A and B), improperly released to the environment, can cause ground and water pollution. Epoxy resin: not readily biodegradable. Glycidoxypropyltrimethoxysilane: hydrolyzes in water or moist air, releasing methanol and organosilicons.

12.3. Bioaccumulative potential

Epoxy resin: has the potential to bioaccumulate. Glycidoxypropyltrimethoxysilane: low potential for bioaccumulation.

12.4. Mobility in soil

Viscous liquid. Slightly soluble 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. Endocrine disrupting properties

None known

12.7. Other adverse effects

None known

SECTION 13: DISPOSAL CONSIDERATIONS**13.1. Waste treatment methods**

Combine resin and curative. The final cured material is considered nonhazardous. Unreacted components are a special waste. Incinerate waste product when in liquid form with a properly licensed facility. The unhardened product is classified as a hazardous waste 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 or ID number**

ADG/ADR/RID/ADN/IMDG/ICAO: UN3082
TDG: UN3082
US DOT: UN3082

14.2. UN proper shipping name

ADG/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)

ADG/ADR/RID/ADN/IMDG/ICAO: 9
TDG: 9
US DOT: 9

14.4. Packing group

ADG/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. Maritime transport in bulk according to IMO instruments

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)
ADG HAZCHEM CODE: ●3Z HIN: 90

SECTION 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****15.1.1. EU regulations**

Authorisations under Title VII: Not applicable

Restrictions under Title VIII: None

Other EU regulations: Directive 94/33/EC on the protection of young people at work.

15.1.2. National regulations**US EPA SARA TITLE III****312 Hazards:**

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

Skin irritation
Skin sensitization
Serious eye damage

None

TSCA: All components are listed or exempted.

Other national regulations: None

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms:

- ADG: Australian Dangerous Goods Code
- ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- ATE: Acute Toxicity Estimate
- BCF: Bioconcentration Factor
- cATpE: Converted Acute Toxicity point Estimate
- CLP: Classification Labelling Packaging Regulation (1272/2008/EC)
- ES: Exposure Standard
- GHS: Globally Harmonized System
- ICAO: International Civil Aviation Organization
- IMDG: International Maritime Dangerous Goods
- LC50: Lethal Concentration to 50 % of a test population
- LD50: Lethal Dose to 50% of a test population
- LOEL: Lowest Observed Effect Level
- N/A: Not Applicable
- NA: Not Available
- NOEC: No Observed Effect Concentration
- NOEL: No Observed Effect Level
- OECD: Organization for Economic Co-operation and Development
- PBT: Persistent, Bioaccumulative and Toxic substance
- (Q)SAR: Quantitative Structure-Activity Relationship
- REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (1907/2006/EC)
- REL: Recommended Exposure Limit
- RID: Regulations concerning the International Carriage of Dangerous Goods by Rail
- SCL: Specific Concentration Limit
- SDS: Safety Data Sheet
- STEL: Short Term Exposure Limit
- STOT RE: Specific Target Organ Toxicity, Repeated Exposure
- STOT SE: Specific Target Organ Toxicity, Single Exposure
- TDG: Transportation of Dangerous Goods (Canada)
- TWA: Time Weighted Average
- US DOT: United States Department of Transportation
- vPvB: very Persistent and very Bioaccumulative substance
- WEL: Workplace Exposure Limit
- WHMIS: Workplace Hazardous Materials Information System

Other abbreviations and acronyms can be looked up at www.wikipedia.org.

Key literature references and sources for data:

- Commission des normes, de l'équité, de la santé et de la sécurité du travail (CNESST)
- Chemical Classification and Information Database (CCID)
- European Chemicals Agency (ECHA) - Information on Chemicals
- Hazardous Chemical Information System (HCIS)
- National Institute of Technology and Evaluation (NITE)
- Swedish Chemicals Agency (KEMI)
- U.S. National Library of Medicine Toxicology Data Network (TOXNET)

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

Classification	Classification procedure
Skin Irrit. 2, H315	Calculation method
Skin Sens. 1, H317	Calculation method
Eye Dam. 1, H318	Calculation method
Aquatic Chronic 2, H411	Calculation method

Relevant H-statements:

- H226: Flammable liquid and vapour.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H318: Causes serious eye damage.
- H336: May cause drowsiness or dizziness.
- H411: Toxic to aquatic life with long lasting effects.

Hazard pictogram names: Corrosion, exclamation mark, environment

Further information: None

Date of last revision: 26 September 2023

Changes to the SDS in this revision: Sections 1.1, 1.2, 1.3, 1.4, 2.2, 3.2, 4.2, 5.2, 8.1, 9.1, 11, 12.6, 15.1, 16.

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.