

SAFETY DATA SHEET

in accordance with 2020/878/EU (REACH, Annex II) 29 CFR 1910.1200, WHMIS 2022 and Safe Work Australia

Revision date: 7 January 2025

Date of previous issue: 14 March 2024

SDS No. 437A-9

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

1.1. Product identifier

ARC S7 (RD, WH) (Part A), ARC S7(E) (RD, WH) (Part A)

Unique Formula Identifier (UFI): Not available

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

Relevant identified uses: Resin for ARC S7, when mixed with Part B forms a tough, chemical resistant, sprayable coating.

Uses advised against: No information available

Reason why uses advised against: Not applicable

1.3. Details of the supplier of the safety data sheet

Company:

A.W. CHESTERTON COMPANY

860 Salem Street

Groveland, MA 01834-1507, USA

Tel. +1 978-469-6446

(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 2022 / Safe Work Australia / GHS

Flammable liquid, Category 3, H226

Skin irritation, Category 2, H315

Eye irritation, Category 2, H319

Specific target organ toxicity – single exposure, Category 3, H335

Reproductive toxicity, Category 2, H361d

Specific target organ toxicity – repeated exposure, Category 1, H372 (hearing, inhalation)

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 2022 / Safe Work Australia / GHS

Hazard pictograms:**Signal word:**

Danger

Hazard statements:

H226 Flammable liquid and vapour.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H361d Suspected of damaging the unborn child.
 H372 Causes damage to hearing through prolonged or repeated exposure by inhalation.

Precautionary statements:

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233 Keep container tightly closed.
 P240 Ground and bond container and receiving equipment.
 P241 Use explosion-proof electrical/ventilating/lighting equipment.
 P242 Use non-sparking tools.
 P243 Take action to prevent static discharges.
 P260 Do not breathe vapours/spray.
 P264 Wash skin thoroughly after handling.
 P270 Do not eat, drink or smoke when using this product.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves and eye/face protection.
 P303/361/353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 P304/340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308/313 IF exposed or concerned: Get medical advice/attention.
 P370/378 In case of fire: Use CO₂, dry chemical, foam or water fog to extinguish.
 P403/235 Store in a well-ventilated place. Keep cool.
 P405 Store locked up.
 P501 Dispose of contents/container to an approved waste disposal plant.

Supplemental information:

Contains Cobalt bis(2-ethylhexanoate). May produce an allergic reaction.

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 Ingredients ¹	% Wt.	CAS No./ EC No.	REACH Reg. No.	CLP/GHS Classification	SCL, M-factor, ATE
Styrene	10-20	100-42-5 202-851-5	NA	Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Acute Tox. 4, H332 STOT SE 3, H335 Repr. 2, H361d STOT RE 1, H372 (hearing, inhalation) Aquatic Acute 2, H401* Aquatic Chronic 3, H412	ATE (oral): 2,650 mg/kg ATE (dermal): > 2,000 mg/kg ATE (inhalation, vapour): 11.8 mg/l

Methacrylic acid	<2.1	79-41-4 201-204-4	NA	Flam. Liq. 4, H227* Acute Tox. 4, H302 Acute Tox. 3 H311 Acute Tox. 4 H332 Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 3, H402*	STOT SE 3, H335: C ≥ 1 % ATE (oral): 1,320 mg/kg ATE (dermal): 500 mg/kg ATE (inhalation, mist): 3.19 mg/l
Cobalt bis(2-ethylhexanoate)	0.01- 0.09	136-52-7 205-250-6	NA	Skin Sens. 1A, H317 Eye Irrit. 2, H319 Repr. 2, H361 Aquatic Acute 1, H400 (M-factor = 1) Aquatic Chronic 3, H412	ATE (oral): > 5,000 mg/kg ATE (dermal): > 5,000 mg/kg ATE (inhalation, mist): > 5 mg/l
Other ingredients:					
Silica (Quartz)	1-5	14808-60-7 238-878-4	NA	Not classified**	NA
Titanium dioxide	1-2	13463-67-7 236-675-5	NA	Not classified** ^a	ATE (oral): 10,000 mg/kg ATE (dermal): > 10,000 mg/kg ATE (inhalation, dust): > 6.82 mg/l
<p>*Non-CLP classification. **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.</p> <p>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 2022 • Safe Work Australia</p>					

SECTION 4: FIRST AID MEASURES**4.1. Description of first aid measures**

- Inhalation:** Remove to fresh air. If not breathing, administer artificial respiration. Contact physician.
- Skin contact:** Remove contaminated clothing. Wash skin with soap and water. Wash clothing before reuse. 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. Do not breathe vapours. 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 irritation. Causes skin irritation. High vapor concentrations may irritate eyes, respiratory tract and possibly cause dizziness, nausea and other central nervous system effects.

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: High volume water jet

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon Monoxide, Carbon Dioxide and other toxic fumes.

Other hazards: Water may cause frothing. Material may polymerize when container is exposed to heat and polymerization will increase pressure in a closed container which may cause the container to rupture violently.

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

Evacuate area. Provide adequate ventilation. Contain spill to a small area. Keep away from sources of ignition - No smoking. If removal of ignition sources is not possible, then flush material away with water. Pick up with absorbent material (sand, sawdust, clay, etc.) and place in a suitable container for disposal. Remove residual with hot soapy water.

6.4. Reference to other sections

Refer to section 13 for disposal advice.

SECTION 7: HANDLING AND STORAGE**7.1. Precautions for safe handling**

Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Vapors are heavier than air and will collect in low areas. Do not breathe vapours/spray. Avoid skin contact. Utilize exposure controls and personal protection as specified in Section 8. Remove contaminated clothing immediately. Wash clothing before reuse. Do not eat, drink or smoke when using this product. Avoid creating and breathing dust during removal, drilling, grinding, sawing or sanding.

7.2. Conditions for safe storage, including any incompatibilities

Store below 24°C (75°F). Store in a well-ventilated place. Keep container tightly closed. Vapors may polymerize to cause plugs in vents and relief devices.

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
Styrene	100 Ceiling: 200 Peak: 600 (5 min in any 3 hr)	N/A	10 STEL: 20	N/A	100 STEL: 250	430 STEL: 1,080	50 STEL: 100	213 426
Methacrylic acid	*	*	20	N/A	20 STEL: 40	72 143	20	70
Cobalt bis(2-ethylhexanoate)	(dust/fume, as Co)	0.1	N/A	N/A	(as Co)	0.1	(dust/fume, as Co)	0.05
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

* U.S. National Institute for Occupational Safety and Health (NIOSH) REL (TWA): 20 ppm, 72 mg/m³ (skin)

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 Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants

Biological limit values

Styrene:

Control parameter	Biological specimen	Sampling Time	Limit value	Basis	Notes
Sum of mandelic acid and phenylglyoxylic acid	Urine	End of shift	150 mg/g creatinine	ACGIH	Nonspecific
Styrene	Urine	End of shift	20 µg/l	ACGIH	–

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

Substance	Route of exposure	Potential health effects	DNEL
Styrene	Inhalation	Acute effects, local	306 mg/m ³
		Acute effects, systemic	289 mg/m ³
		Chronic effects, systemic	85 mg/m ³
Methacrylic acid	Dermal	Chronic effects, systemic	406 mg/kg bw/day
		Chronic effects, local	88 mg/m ³
		Chronic effects, systemic	29.6 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
Styrene	Fresh water	0.028 mg/l
	Marine water	0.014 mg/l
	Water, intermittent release	0.04 mg/l
	Freshwater sediments	0.614 mg/kg dry wt.
	Marine sediments	0.307 mg/kg dry wt.
Titanium dioxide	Microorganisms in sewage treatment	5 mg/l
	Soil (agricultural)	0.2 mg/kg dry wt.
	Fresh water	0.184 mg/l
	Marine water	0.0184 mg/l
	Water	0.193 mg/l
	Freshwater sediments	1000 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**

Use only in well-ventilated areas. If exposure limits are exceeded, provide adequate explosion-proof ventilation. 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 an approved organic vapor respirator (e.g., EN filter type A-P2). During spraying, wear suitable respiratory equipment.

Protective gloves: Chemical resistant gloves (e.g. Viton*, neoprene, nitrile). *Trademark of The Chemours Company FC, LLC.

Styrene:

Contact type	Glove material	Layer thickness	Breakthrough time *
Full	Viton	0.70 mm	> 480 min.
Splash	Nitrile rubber	0.40 mm	> 30 min.

*Determined according to EN374 standard.

Eye and face protection: Safety goggles.

Other: Impervious clothing as necessary to prevent skin contact. Remove contaminated clothing and wash before reuse.

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	red or white	Kinematic viscosity	≈ 26,000 cSt @ 25°C (calculated)
Odour	aromatic	Solubility in water	insoluble
Odour threshold	0.14 ppm	Partition coefficient n-octanol/water (log value)	not applicable
Boiling point or range	145°C (293°F)	Vapour pressure @ 20°C	4.5 mm Hg
Melting point/freezing point	not determined	Density and/or relative density	1.55 kg/l
% Volatile (by volume)	16% @ 20°C	Weight per volume	12.9 lbs/gal.
Flammability	not determined	Vapour density (air=1)	> 1
Lower/upper flammability or explosion limits	LEL 0.9%; UEL 6.8%	Rate of evaporation (ether=1)	< 1
Flash point	31°C (87.6°F)	% Aromatics by weight	12.8%
Method	PM Closed Cup	Particle characteristics	not applicable
Autoignition temperature	490°C (914°F)	Explosive properties	not determined
Decomposition temperature	not determined	Oxidising properties	not determined

9.2. Other information

Dynamic viscosity: 40,000 cPs @ 25°C (measured). VOC (EPA 24): 1.61 lbs/gal. (0.19 kg/l).

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

Refer to sections 10.3 and 10.5.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Elevated temperatures can cause hazardous polymerization. Vapors may polymerize to cause plugs in vents and relief devices.

10.4. Conditions to avoid

Open flames, heat, sparks and red hot surfaces. Avoid direct sunlight or ultraviolet sources.

10.5. Incompatible materials

Strong oxidizers like liquid Chlorine and concentrated Oxygen.

10.6. Hazardous decomposition products

Carbon Monoxide, Carbon Dioxide and other toxic fumes.

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

Primary route of exposure under normal use: Inhalation, skin and eye contact. Personnel with pre-existing skin, eye and lung disorders are generally aggravated by exposure.

Acute toxicity -**Oral:**

ATE-mix = 12,550 mg/kg

Substance	Test	Result
Styrene	LD50, rat	2,650 mg/kg
Methacrylic acid	LD50, rat	1,320 mg/kg
Titanium dioxide	LD50, rat	> 10,000 mg/kg

Dermal:

ATE-mix = 23,810 mg/kg

Substance	Test	Result
Styrene	LD50, rat	> 2,000 mg/kg
Methacrylic acid	LD50, rabbit	500 - 1,000 mg/kg
Titanium dioxide	LD50, rabbit	> 10,000 mg/kg

Inhalation:

High vapor concentrations may irritate eyes, respiratory tract and possibly cause dizziness, nausea and other central nervous system effects.

ATE-mix = 70.66 mg/l (vapour)

ATE-mix = 8.59 mg/l (aerosol)

Substance	Test	Result
Styrene	LC50, rat, 4 hours	11.8 mg/l (vapour)
Methacrylic acid	LC50, rat, 4 hours (OECD 403)	7.1 mg/l (aerosol) 3.19-6.5 mg/l / vapour 3.4-3.7 mg/l)
Titanium dioxide	LC50, rat, 4 hours	> 6.82 mg/l

Skin corrosion/irritation:

Causes skin irritation. Prolonged or repeated skin contact may cause dermatitis.

Substance	Test	Result
Styrene	Skin irritation, rabbit	Moderate irritation
Methacrylic acid	Skin irritation, rabbit (OECD 404)	Corrosive

Serious eye damage/irritation:

Causes serious eye irritation.

Substance	Test	Result
Styrene	Eye irritation, rabbit	Moderate irritation
Methacrylic acid	Eye irritation, rabbit (OECD 405)	Corrosive

Respiratory or skin sensitisation:

Substance	Test	Result
Styrene	Skin sensitization, guinea pig	Not sensitizing
Methacrylic acid	Skin sensitization, guinea pig	Not sensitizing

Germ cell mutagenicity:

Styrene, Methacrylic acid, Titanium dioxide: based on available data, the classification criteria are not met.

Carcinogenicity:

Styrene is considered a potential carcinogen by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP). 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:

Suspected of damaging the unborn child (Styrene).

STOT – single exposure:

May cause respiratory irritation (Styrene, Methacrylic acid).

STOT – repeated exposure:

Lab animals exposed to Styrene showed hearing loss and liver, kidney and central nervous system effects. Titanium dioxide: based on available data, the classification criteria are not met. Methacrylic acid: Sub-chronic NOAEL, 90 days, inhalation, rat, 100 ppm.

Aspiration hazard:

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

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

Styrene: toxic to aquatic organisms on an acute basis [48 h EC50 (for daphnia): 4.7 mg/l]; harmful to aquatic life with long lasting effects (chronic NOEC, Daphnia magna, 21 days: 1.01 mg/l). Methacrylic acid: 72 h EC50 (for algae), 45 mg/l.

12.2. Persistence and degradability

Styrene: 80% biodegradable (OECD 301D, 20 days); readily biodegradable. Methacrylic acid: readily biodegradable. Titanium dioxide, Silica: inorganic substances.

12.3. Bioaccumulative potential

Styrene: low potential for bioaccumulation (BCF < 100). Methacrylic acid: not expected to bioaccumulate.

12.4. Mobility in soil

Paste. Insoluble in water. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9). Styrene: expected to exhibit low mobility in soil (500 < Koc < 2000). Methacrylic acid: expected to have very high mobility in soils (Koc = 15).

12.5. Results of PBT and vPvB assessment

Not available

12.6. Endocrine disrupting properties

None known

12.7. Other adverse effects

None known

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

Combine resin and curative. The final cured material is considered nonhazardous. Landfill sealed containers with a properly licensed facility. Unreacted components are a special waste (classified as hazardous according to 2008/98/EC). 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**

ADG/ADR/RID/ADN/IMDG/ICAO: UN1866

TDG: UN1866

US DOT: UN1866

14.2. UN proper shipping name

ADG/ADR/RID/ADN/IMDG/ICAO: RESIN SOLUTION

TDG: RESIN SOLUTION

US DOT: RESIN SOLUTION

14.3. Transport hazard class(es)

ADG/ADR/RID/ADN/IMDG/ICAO: 3

TDG: 3

US DOT: 3

14.4. Packing group

ADG/ADR/RID/ADN/IMDG/ICAO: III

TDG: III

US DOT: III

14.5. Environmental hazards

NO ENVIRONMENTAL HAZARDS

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. 128

MAY BE SHIPPED AS LIMITED QUANTITIES IN PACKAGING HAVING A RATED CAPACITY GROSS WEIGHT OF 66 LB. OR LESS AND IN INNER PACKAGES

NOT OVER 5 LITERS (49 CFR 173.150(B,3)).

IMDG: EMS F-E, S-E

ADR: CLASSIFICATION CODE F1, TRANSPORT CATEGORY 3, TUNNEL RESTRICTION CODE (D/E)

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

Authorisations under Title VII: Not applicable

Restrictions under Title VIII: None

Other EU regulations: Directive 92/85/EEC on the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.
 Directive 94/33/EC on the protection of young people at work.
 Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances (hazard category P5c, Flammable Liquids).

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:**

Flammable liquid	Styrene	100-42-5	10-20%
Skin irritation	Cobalt compounds	136-52-7	Below de minimis
Eye irritation	concentration		
Specific target organ toxicity – single exposure			
Reproductive toxicity			
Specific target organ toxicity – repeated exposure			

TSCA: All components are listed or exempted.

Other national regulations: National implementations of the EC Directives referred to in section 15.1.1.

15.2. Chemical safety assessment

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

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms: 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
Flam. Liq. 3, H226	On basis of test data
Skin Irrit. 2, H315	Calculation method
Eye Irrit. 2, H319	Calculation method
STOT SE 3, H335	Calculation method
Repr. 2, H361d	Calculation method
STOT RE 1, H372	Calculation method

Relevant H-statements:

H226: Flammable liquid and vapour.
 H227: Combustible liquid.
 H302: Harmful if swallowed.
 H304: May be fatal if swallowed and enters airways.
 H311 : Toxic in contact with skin.
 H314 : Causes severe skin burns and eye damage.
 H315: Causes skin irritation.
 H317: May cause an allergic skin reaction.
 H318: Causes serious eye damage.
 H319: Causes serious eye irritation.
 H332: Harmful if inhaled.
 H335: May cause respiratory irritation.
 H361: Suspected of damaging fertility or the unborn child.
 H361d: Suspected of damaging the unborn child.
 H372: Causes damage to organs through prolonged or repeated exposure.
 H400: Very toxic to aquatic life.
 H401: Toxic to aquatic life.
 H402: Harmful to aquatic life.
 H412 Harmful to aquatic life with long lasting effects.

Hazard pictogram names: Flame, health hazard, exclamation mark

Further information: None

Date of last revision: 7 January 2025

Changes to the SDS in this revision: Sections 1.1, 3.

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.