

## SAFETY DATA SHEET

in accordance with 2015/830/EU (REACH, Annex II) 29 CFR 1910.1200, WHMIS 2015 and Safe Work Australia

**Revision date:** 25 April 2020

**Initial date of issue:** 5 July 2007

**SDS No.** 182A-21

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

#### 1.1. Product identifier

438 PTFE Coating (Aerosol)

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

Provides a slippery, dry, clean coating of PTFE (Polytetrafluoroethylene). PTFE Coating is greaseless and nonstaining and can be used to protect and lubricate smooth nonporous surfaces. Synthetic Base Lubricant.

#### 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](http://www.chesterton.com)  
E-mail (SDS questions): [ProductSDSs@chesterton.com](mailto:ProductSDSs@chesterton.com)  
E-mail: [customer.service@chesterton.com](mailto: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]

Aerosol, Category 1, H222, H229  
Eye irritation, Category 2, H319  
Specific target organ toxicity – single exposure, Category 3, H336  
Reproductive toxicity, Category 2, H361d

##### 2.1.2. Classification according to 29 CFR 1910.1200 / WHMIS 2015

Flammable aerosol, Category 1, H222  
Compressed gas, H280  
Eye irritation, Category 2, H319  
Specific target organ toxicity – single exposure, Category 3, H336  
Reproductive toxicity, Category 2, H361d  
Specific target organ toxicity – repeated exposure, Category 2, H373 (central nervous system, inhalation)

Additional GHS classification: Skin irritation, Category 3, H316

##### 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:**

Danger

**Hazard statements:**

H222 Extremely flammable aerosol.  
 H229 Pressurized container: May burst if heated.  
 H319 Causes serious eye irritation.  
 H336 May cause drowsiness or dizziness.  
 H361d Suspected of damaging the unborn child.

**Precautionary statements:**

P201 Obtain special instructions before use.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P211 Do not spray on an open flame or other ignition source.  
 P251 Do not pierce or burn, even after use.  
 P261 Avoid breathing vapours/spray.  
 P280 Wear protective gloves/clothing and eye/face protection.  
 P308/313 IF exposed or concerned: Get medical advice/attention.  
 P403 Store in a well-ventilated place.  
 P410/412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

**Supplemental information:**

EUH066 Repeated exposure may cause skin dryness or cracking.

**2.2.2. Labelling according to 29 CFR 1910.1200 / WHMIS 2015****Hazard pictograms:****Signal word:**

Danger

**Hazard statements:**

H222 Extremely flammable aerosol.  
 H280 Contains gas under pressure; may explode if heated.  
 H316 Causes mild skin irritation.  
 H319 Causes serious eye irritation.  
 H336 May cause drowsiness or dizziness.  
 H361d Suspected of damaging the unborn child.  
 H373 May cause damage to the central nervous system 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.  
 P211 Do not spray on an open flame or other ignition source.  
 P251 Do not pierce or burn, even after use.  
 P260 Do not breathe vapours/spray.  
 P264 Wash skin thoroughly after handling.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves/clothing and eye/face protection.  
 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.  
 P403 Store in a well-ventilated place.  
 P410/412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.  
 P501 Dispose of contents/container to an approved waste disposal plant.

**Supplemental information:**

None

**2.3. Other hazards**

When heated to temperatures above 260°C (500°F), PTFE resins begin to give off vapors that may cause temporary flu-like symptoms if inhaled. Thermal decomposition leads to the formation of oxidized products containing Carbon, Fluorine and Oxygen. The ACGIH states that no exposure limit is recommended pending determination of the toxicity of the products, but air concentration should be minimal. Likewise, when using this product avoid smoking for the same reason.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2. Mixtures**

Hazardous Ingredients <sup>1</sup>	% Wt.	CAS No./ EC No.	REACH Reg. No.	CLP/GHS Classification
Acetone	50-60	67-64-1 200-662-2	NA	Flam. Liq. 2, H225 [Skin Irrit. 3, H316] Eye Irrit. 2, H319 STOT SE 3, H336
Butanone (Synonym: Methyl ethyl ketone)	10-20	78-93-3 201-159-0	NA	Flam. Liq. 2, H225 [Asp. Tox. 2, H305] Eye Irrit. 2, H319 STOT SE 3, H336
Isobutane*	10-15	75-28-5 200-857-2	NA	Flam. Gas 1, H220 Press. Gas (Comp.), H280 Simple Asphyxiant (US/Can.)
Toluene	1-5	108-88-3 203-625-9	NA	Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Repr. 2, H361d STOT RE 2, H373 (CNS, inhalation) Aquatic Chronic 3, H412
Propane	1-3	74-98-6 200-827-9	NA	Flam. Gas 1, H220 Press. Gas (Comp.), H280 Simple Asphyxiant (US/Can.)

Any classification in brackets is a GHS building block that was not adopted by the EU, the US, Canada and Australia in their national implementations of GHS. For full text of H-statements: see SECTION 16.

\*Contains less than 0.1 % w/w 1,3-Butadiene.

<sup>1</sup> 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:** 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 vapors. See section 8.2.2 for recommendations on personal protective equipment.

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

Direct eye contact will cause eye irritation. Excessive inhalation of vapors may result in dizziness, headache and other central nervous system effects and irritate the eyes and respiratory tract. Repeated exposure may cause skin dryness or cracking. Animal studies have reported hearing loss and adverse fetal developmental effects with excessive exposure to toluene.

**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 or foam

**Unsuitable extinguishing media:** Water jets

**5.2. Special hazards arising from the substance or mixture**

Pressurized containers, when heated, are a potential explosive hazard.

**5.3. Advice for firefighters**

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

**Flammability Classification:** not determined

**HAZCHEM Emergency Action Code:** 3 Y

**SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Provide adequate ventilation. Utilize exposure controls and personal protection as specified in Section 8.

**6.2. Environmental Precautions**

Keep out of sewers, streams and waterways.

**6.3. Methods and material for containment and cleaning up**

Contain spill to a small area. 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.

**6.4. Reference to other sections**

Refer to section 13 for disposal advice.

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

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No Smoking. Vapors are heavier than air and will collect in low areas. Vapor accumulations could flash and/or explode if ignited. Due to toxic decomposition, avoid smoking when handling PTFE products. Wash hands to avoid transfer to tobacco products.

**7.2. Conditions for safe storage, including any incompatibilities**

Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C (120°F). Do not pierce or burn, even after use.

**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 <sup>1</sup>		ACGIH TLV <sup>2</sup>		UK WEL <sup>3</sup>		AUSTRALIA ES <sup>4</sup>	
	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Acetone	1000	2400	250	N/A	500	1210	500	1185
			STEL: 500		STEL: 1500	STEL: 3620	STEL: 1000	STEL: 2375
Butanone	200	590	200	590	200	600	150	445
			STEL: 300	885	STEL: 300	899	STEL: 300	890
Isobutane	N/A	N/A	STEL: 1000	N/A	N/A	N/A	N/A	N/A
Toluene	200	N/A	20	N/A	50	191	50	191
	Ceiling: 300				STEL: 100	STEL: 384	STEL: 150	574
	Peak: 500 (10 min.)							
Propane	1000	1800	*	N/A	N/A	N/A	*	N/A

\*Simple asphyxiant. No TLV.

<sup>1</sup> United States Occupational Health & Safety Administration permissible exposure limits

<sup>2</sup> American Conference of Governmental Industrial Hygienists threshold limit values

<sup>3</sup> EH40 Workplace exposure limits, Health & Safety Executive

<sup>4</sup> Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants

**Biological limit values**

Acetone:

Control parameter	Biological specimen	Sampling Time	Limit value	Basis	Notes
Acetone	Urine	End of shift	25 mg/l	ACGIH	Nonspecific

Butanone:

Control parameter	Biological specimen	Sampling Time	Limit value	Basis	Notes
Butanone	Urine	End of shift	2 mg/l	ACGIH	Nonspecific
Butanone	Urine	End of shift	0.07 mmol/l	UK HSE	–

Toluene:

Control parameter	Biological specimen	Sampling Time	Limit value	Basis	Notes
Toluene	Blood	Prior to last shift of workweek	0.02 mg/l	ACGIH	–
Toluene	Urine	End of shift	0.03 mg/l	ACGIH	–
o-Cresol*	Urine	End of shift	0.3 mg/g creatinine	ACGIH	Background

\* With hydrolysis

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

Substance	Route of exposure	Potential health effects	DNEL
Acetone	Inhalation	Chronic effects, systemic	1210 mg/m <sup>3</sup> (GESTIS)
Butanone	Inhalation	Chronic effects, systemic	600 mg/m <sup>3</sup>
	Dermal	Chronic effects, systemic	1161 mg/kg
Toluene	Inhalation	Chronic effects, systemic	192 mg/m <sup>3</sup>
	Dermal	Chronic effects, systemic	384 mg/kg/day

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

Substance	Environmental protection target	PNEC
Butanone	Fresh water	55.8 mg/l
	Sediments	284.7 mg/kg
	Marine water	55.8 mg/l
	Water, intermittent release	55.8 mg/l
	Microorganisms in sewage treatment	709 mg/l
Toluene	Soil (agricultural)	22.5 mg/kg
	Fresh water	0.68 mg/l
	Sediments	16.39 mg/kg
	Marine water	0.68 mg/l
	Water, intermittent release	0.68 mg/l
	Microorganisms in sewage treatment	13.61 mg/l
	Soil (agricultural)	2.89 mg/kg

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

Use only in well-ventilated areas. If exposure limits are exceeded, provide adequate ventilation.

**8.2.2. Individual protection measures**

**Respiratory protection:** Not normally needed. If exposure limits are exceeded, use approved organic vapor respirator (e.g., EN filter type AX-P2).

**Protective gloves:** Chemical resistant gloves.

Acetone:

Contact type	Glove material	Layer thickness	Breakthrough time*
Full	butyl rubber	0.7 mm	> 480 min.
Splash	natural rubber	0.6 mm	> 10 min.

\*Determined according to EN374 standard.

**Eye and face protection:** Safety goggles.

**Other:** Impervious clothing as necessary to prevent skin contact.

**8.2.3. Environmental exposure controls**

Refer to sections 6 and 12.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties**

<b>Physical state</b>	low viscosity liquid	<b>Odour</b>	strong solvent odor
<b>Colour</b>	milky white	<b>Odour threshold</b>	not determined
<b>Initial boiling point</b>	56°C (133°F)	<b>Vapour pressure @ 20°C</b>	not determined
<b>Melting point</b>	not determined	<b>% Aromatics by weight</b>	7.73%
<b>% Volatile (by volume)</b>	97.9%	<b>pH</b>	not applicable
<b>Flash point</b>	-18°C (0°F), product only	<b>Relative density</b>	0.75 kg/l
<b>Method</b>	Closed Cup	<b>Weight per volume</b>	6.28 lbs/gal.
<b>Viscosity</b>	not determined	<b>Coefficient (water/oil)</b>	< 1
<b>Autoignition temperature</b>	not determined	<b>Vapour density (air=1)</b>	> 1
<b>Decomposition temperature</b>	not determined	<b>Rate of evaporation (ether=1)</b>	< 1
<b>Upper/lower flammability or explosive limits</b>	not determined	<b>Solubility in water</b>	negligible
<b>Flammability (solid, gas)</b>	extremely flammable (propellant)	<b>Oxidising properties</b>	not determined
<b>Explosive properties</b>	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 red hot surfaces.

**10.5. Incompatible materials**

Acids, bases and 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 toxicological effects**

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

**Acute toxicity -****Oral:**

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

Substance	Test	Result
Acetone	LD50, rat	5800 mg/kg
Butanone	LD50, rat	> 2600 mg/kg
Toluene	LD50, rat	5580 mg/kg

**Dermal:**

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

Substance	Test	Result
Acetone	LD50, rabbit	> 7426 mg/kg
Butanone	LD50, rabbit	> 8000 mg/kg
Toluene	LD50, rabbit	12124 mg/kg

**Inhalation:**

Based on available data on components, the classification criteria are not met. Excessive inhalation of vapors may result in dizziness, headache and other central nervous system effects and irritate the eyes and respiratory tract.

Substance	Test	Result
Acetone	LC50, rat, 4 hours	> 20 mg/l
Butanone	LC50, rat, 8 hours	23.5 mg/l
Toluene	LC50, rat, 4 hours	28.1 mg/l (vapor)

**Skin corrosion/irritation:**

Repeated exposure may cause skin dryness or cracking.

Substance	Test	Result
Acetone	Skin irritation, rabbit	Moderate irritation
Butanone	Skin irritation, rabbit	Slightly irritating
Toluene	Skin irritation, rabbit	Moderate irritation

**Serious eye damage/irritation:**

Causes serious eye irritation.

Substance	Test	Result
Acetone	Eye irritation, rabbit, rat	Irritating
Butanone	Eye irritation, rabbit	Irritating
Toluene	Eye irritation, rabbit	Mild irritation

**Respiratory or skin sensitisation:**

Not expected to cause skin sensitization.

**Germ cell mutagenicity:**

Acetone, Butanone: based on available data, the classification criteria are not met. Toluene: not expected to be a germ cell mutagen.

**Carcinogenicity:**

This product contains no carcinogens as listed by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), the Occupational Safety and Health Administration (OSHA) or the European Chemicals Agency (ECHA).

**Reproductive toxicity:**

Animal studies have reported adverse fetal developmental effects with excessive exposure to toluene.

**STOT – single exposure:**

May cause drowsiness or dizziness.

**STOT – repeated exposure:**

Animal studies have reported hearing loss with excessive exposure to toluene.

**Aspiration hazard:**

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

**Other information:**

None

**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**

Toluene: NOEC, *Daphnia magna*, 21 days = 1 mg/l; NOEC, *Ceriodaphnia dubia*, 7 days = 0.74 mg/l; 96 h LC50 (fish) = 5.5 mg/l, toxic to aquatic organisms on an acute basis.

**12.2. Persistence and degradability**

Hazardous ingredients: will degrade in air; readily biodegradable. Toluene: ready biodegradability (water) 20 days = 86%.

**12.3. Bioaccumulative potential**

Hazardous ingredients: low potential for bioaccumulation. Toluene: Octanol/water partition coefficient (log Kow) = 2.73; BCF = 8.3.

**12.4. Mobility in soil**

Liquid. Insoluble in water. The hazardous ingredients will rapidly evaporate to the air if released into the environment. Acetone, Toluene: expected to have moderate to high mobility in soils. Butanone: expected to have very high mobility in soils. In determining environmental mobility, consider the product's physical and chemical properties (see Section 9).

**12.5. Results of PBT and vPvB assessment**

Not available

**12.6. Other adverse effects**

None known



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

Incinerate absorbed material with a properly licensed facility. Full or partially full containers may be incinerated or the contents may be recovered by an appropriate facility. Check local, state and national/federal regulations and comply with the most stringent requirement. This product is classified as a hazardous waste according to 2008/98/EC.

**SECTION 14: TRANSPORT INFORMATION****14.1. UN number**

<b>ADG/ADR/RID/ADN/IMDG/I</b>	UN1950
<b>CAO:</b>	
<b>TDG:</b>	UN1950
<b>US DOT:</b>	UN1950

**14.2. UN proper shipping name**

<b>ICAO:</b>	Aerosols, Flammable
<b>ADG/IMDG:</b>	Aerosols
<b>ADR/RID/ADN:</b>	Aerosols, <i>flammable</i>
<b>TDG:</b>	Aerosols, <i>flammable</i>
<b>US DOT:</b>	Aerosols, <i>flammable</i>

**14.3. Transport hazard class(es)**

<b>ADG/ADR/RID/ADN/IMDG/I</b>	2.1
<b>CAO:</b>	
<b>TDG:</b>	2.1
<b>US DOT:</b>	2.1

**14.4. Packing group**

<b>ADG/ADR/RID/ADN/IMDG/I</b>	NOT APPLICABLE
<b>CAO:</b>	
<b>TDG:</b>	NOT APPLICABLE
<b>US DOT:</b>	NOT APPLICABLE

**14.5. Environmental hazards**

NO ENVIRONMENTAL HAZARDS

**14.6. Special precautions for user**

NO SPECIAL PRECAUTIONS FOR USER

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

NOT APPLICABLE

**14.8. Other information**

**US DOT:** Shipped as Limited Quantity in packaging having a rated capacity gross weight of 66 lb. or less (49 CFR 173.306(a),(3),(i)).  
ERG NO. 126

**IMDG:** EmS. F-D, S-U, Shipped as Limited Quantity

**ADR:** Classification code 5F, Tunnel restriction code (E), Shipped as Limited Quantity

**ADG HAZCHEM CODE:** N/A **HIN:** (1)

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

**Authorisations under Title VII:** Not applicable

**Restrictions under Title VIII:** None

**Other EU regulations:** Directive 94/33/EC on the protection of young people at work.  
 Directive 92/85/EEC on the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.  
 Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances (hazard category P3a, Flammable Aerosols; qualifying quantities: 150 t (net), 500 t (net)).  
 Directive 75/324/EEC on the approximation of the laws of the Member States relating to aerosol dispensers

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

Flammable aerosol  
 Gases under pressure  
 Eye irritation  
 Specific target organ toxicity – single exposure  
 Reproductive toxicity  
 Specific target organ toxicity – repeated exposure

**313 Chemicals:**

Methyl ethyl ketone	78-93-3	10-20%
Toluene	108-88-3	1-5%

**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  
 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](http://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
Aerosol 1, H222	On basis of components
Eye Irrit. 2, H319	Calculation method
STOT SE 3, H336	Bridging principle "Dilution"
Repr. 2, H361d	3312 Calculation method
STOT RE 2, H373	3312 Calculation method

**Relevant H-statements:** H220: Extremely flammable gas.  
 H222: Extremely flammable aerosol.  
 H225: Highly flammable liquid and vapour.  
 H229: Pressurized container: May burst if heated.  
 H280: Contains gas under pressure; may explode if heated.  
 H304: May be fatal if swallowed and enters airways.  
 H305: May be harmful if swallowed and enters airways.  
 H315: Causes skin irritation.  
 H316 : Causes mild skin irritation.  
 H319: Causes serious eye irritation.  
 H336: May cause drowsiness or dizziness.  
 H361d: Suspected of damaging the unborn child.  
 H373: May cause damage to organs through prolonged or repeated exposure.  
 H412: Harmful to aquatic life with long lasting effects.

**Hazard pictogram names:** Flame, gas cylinder (non-CLP labelling) exclamation mark, health hazard

**Further information:** None

**Date of last revision:** 25 April 2020

**Changes to the SDS in this revision:** Sections 1.3, 2.1, 22, 3, 4.1, 8.1, 8.2.2, 11, 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.