

422B-LIQUID

Safety Data Sheet

Section 1: Product and Company Identification

Product Identifier and Other Means of Identification

Product Name: Silicone Modified Conformal Coating

SDS Code: 422B-Liquid

Related Part # 422B-55ML, 422B-1L, 422B-4L, 422BPX-4L, 422B-20L

Recommended Use and Restriction on Use

Use: Conformal coating

Uses Advised Against: Not applicable

Details of Manufacturer or Importer

Manufacturer MG Chemicals 1210 Corporate Drive Burlington, Ontario L7L 5R6 CANADA

MG Chemicals (Head Office) 9347-193 Street Surrey, British Columbia V4N 4E7 CANADA

***** +1-800-340-0772

 Fax
 +1-800-340-0773

 E-MAIL

 www.mgchemicals.com

 Image: mail with the system
 the system

E-MAIL (Competent Person): <u>sds@mgchemicals.com</u>

Emergency Phone Number

For hazardous material incidents ONLY—leaks, spills, fires, exposures or accidents USA or CANADA: Call CHEMTREC **2**: +1-800-424-9300

For emergencies involving dangerous goods; Collect 24/7 CANADA: Call CANUTEC **2**: +1-613-996-6666 or *666 on cellular phones



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Section 2: Hazards Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Flammable Liquid		2	Danger	Flame
Aspiration Hazard		1	Danger	Health
Specific Target Organ Toxicity	Repeated Exposure	2	Warning	Health
Reproductive Toxicity		2	Warning	Health
Carcinogenicity		2	Warning	Health
Eye irritation		2	Warning	Exclamation
Skin irritation		2	Warning	Exclamation
Specific Target Organ Toxicity	Single Exposure	3	Warning	Exclamation
Hazardous to the Aquatic	Chronic	3	none	none
Environment				

Note: The degree of severity is ranked within each hazard class from

1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Label Elements

Signal Word	DANGER
Pictograms	Hazard Statements
	H225: Highly flammable liquid and vapor
	H304: May be fatal if swallowed and enters airways
	H373: May cause damage to organs (inner ear, liver) through prolonged or repeated exposure
	H361: Suspected of damaging fertility or the unborn child
· · · · ·	H351: Suspected of causing cancer



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Pictogram	Hazard Statements
~	H315: Causes skin irritation
	H319: Causes serious eye irritation
· · ·	H336: May cause drowsiness and dizziness
No Symbol Mandated	H412: Harmful to aquatic life with long lasting effects
Prevention	Precautionary Statements
P102	Keep out of reach of children.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P243	Take precautionary measures against static discharge.
P260	Do not breathe mist/vapors/spray.
P271	Use only outdoors or in well-ventilated area.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing, eye protection/face protection.
P273	Avoid release to the environment.



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Response	Precautionary Statements
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P301 + P310, P331	IF SWALLOWED: Immediately call a Poison Center/doctor. Do NOT induce vomiting.
P303 + P361 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical attention.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTRE/doctor if you feel unwell.
Storage	Precautionary Statements
P403 + P235	Store in well ventilated place. Keep cool.
P405	Store locked up.
Disposal	Precautionary Statements
P501	Dispose of contents/container in accordance to local/regional/international regulations.

Hazards Not Otherwise Classified

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
Defats skin	Repeated exposure may cause skin dryness or cracking.	None	None



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Section 3: Composition/Information on Ingredients		
CAS #	Chemical Name	%(weight)
67-64-1	acetone	41%
1330-20-7	xylene (mixed isomers)	19-22%
108-65-6	1-methoxy-2-propanol acetate	4-6%
100-41-4	ethylbenzene	4-5%
108-88-3	toluene	<0.5%

Section 4: F	rst Aid Measures
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Exposure Condition	GHS Code: Precautionary Statement
IF ON SKIN (or hair)	P303 + P361 +P352, P332 + P313, P363, P308 + P313
Immediate Symptoms	redness, dry skin, irritation
Response	Take off immediately all contaminated clothing. Wash with plenty of water.
	If skin irritation occurs: Get medical advice/attention.
	Wash contaminated clothing before reuse.
	IF exposed or concerned: Get medical advice/attention.
IF SWALLOWED	P301 + P310, P331, P308 + P313
Immediate Symptoms	burning sensation, abdominal pain, nausea, vomiting, headaches, dizziness, drowsiness
Response	Immediately call a Poison Center/doctor. Do NOT induce vomiting.
	IF exposed or concerned: Get medical advice/attention.
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	redness, severe irritation, pain, blurred vision
Response	Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	If eye irritation persists: Get medical advice/attention.
	Section continued on the next page



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IF INHALED	P304 + P340, P312, P308 + P313
Immediate Symptoms	irritation of the respiratory track, cough, dizziness, drowsiness, headaches (in extreme exposure cases: nausea, unconsciousness)
Response	Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing. If feeling unwell: Call a doctor.
	If exposed or concerned: Get medical advice/attention.

Section 5: Fire Fighting Measures

Extinguishing Media	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
	Use water spray to cool containers.
Specific Hazards	The vapors are heavier than air and may accumulate in low- lying areas. Vapors may travel long distances and ignite at an ignition source, which can cause a flashback or an explosion.
	Prevent fire-fighting wash from entering waterway or sewer system.
Combustion Products	Produces carbon oxides (CO, CO ₂).
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

Section 6: Accidental Release Measures

Personal Protection	See personal protection recommendations in Section 8.
Precautions for Response	Remove or keep away all sources of extreme heat or open flames. Do not breathe mist/vapors/spray.
Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways.
Containment Methods	Contain with inert and non-flammable absorbent (such as soil, sand, vermiculite).
Cleaning Methods	Collect liquid in a sealable, solvent-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wash spill area with soap and water to remove the last traces of residue.
	Recommendation: Use a grounded stainless steel or carbon steel container.
Disposal Methods	Dispose of spill waste according to Section 13.
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Section 7: Handling and Storage		
Prevention	Keep out of reach of children.	
	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.	
	Keep away from heat/sparks/open flames/hot surfaces. No smoking	
	Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge.	
	Do not breathe mist/vapors/spray/fumes. Use only outdoors or in well-ventilated area. Keep container tightly closed.	
	Avoid release to the environment.	
Handling	Wash hands thoroughly after handling.	
	Wear protective gloves/eye protection/face protection.	
	Take off immediately all contaminated clothing and wash it before reuse.	
Storage	Store in well ventilated place. Keep cool.	
	Store locked up.	



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Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

Chemical Name	Country/ Provinces	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
acetone	ACGIH	500 ppm	750 ppm
	U.S.A. OSHA PEL	1 000 ppm	Not established
	Canada AB	500 ppm	750 ppm
	Canada BC	250 ppm	500 ppm
	Canada ON	500 ppm	750 ppm
	Canada QC	750 ppm	1 000 ppm
xylene	ACGIH	100 ppm	150 ppm
(mixed isomers)	U.S.A. OSHA PEL	100 ppm	Not established
	Canada AB	100 ppm	150 ppm
	Canada BC	100 ppm	150 ppm
	Canada ON	100 ppm	150 ppm
	Canada QC	100 ppm	150 ppm
1-methoxy-2-	ACGIH	Not established	Not established
propanol acetate	U.S.A. OSHA PEL	Not established	Not established
	U.S.A. California ^{a)}	100 ppm	150 ppm
	Canada AB	Not established	Not established
	Canada BC	50 ppm	75 ppm
	Canada ON	50 ppm	Not established
	Canada QC	Not established	Not established
ethylbenzene	ACGIH	20 ppm	Not established
	U.S.A. OSHA PEL	100 ppm	Not established
	Canada AB	100 ppm	125 ppm
	Canada BC	20 ppm (2B)	Not established
	Canada ON	100 ppm	125 ppm
	Canada QC	100 ppm	125 ppm
toluene	ACGIH	20 ppm	Not established
	U.S.A. OSHA PEL	200 ppm	300 ppm
	Canada AB	50 ppm	Not established
	Canada BC	20 ppm	Not established
	Canada ON	20 ppm	Not established
	Canada QC	100 ppm	150 ppm

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS² database and data from suppliers' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

(2B) Carcinogen

a) California Code of Regulations, Title 8, Section 5155. Airborne Contaminants. Can be absorbed through skin.

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Engineering Controls

Ventilation	Keep airborne concentrations below the occupational exposure
	limits (OEL).

Personal Protective Equipment

Eye protection	Wear appropriate protective eyeglasses or chemical safety goggles.
	Recommendation : Use safety glasses with lateral protection (side shields).
Skin Protection	For likely contacts, use of protective butyl rubber, fluorinated rubber, or other chemically resistant gloves.
	For incidental contacts, nitrile, neoprene, PVC, or other chemically resistant gloves.
Respiratory Protection	For over-exposures up to 10 x OEL of mist/vapors/spray, wear respirator such as a half-mask respirator with organic vapor cartridges.
	Above 10 x OEL, use a positive-pressure, air-supplied respirator or a self-contained breathing apparatus.
	RECOMMENDATION: Consult your local safety supply store to ensure that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. The respirator should be fitted to the employee by a professional. Ensure vapor cartridges are stored in sealed plastic bags when not being used.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.



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Section 9:	Physical and	Chemical	Properties
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Physical State	Liquid	Lower Flammability Limit ^{b)}	1%
Appearance	Clear	Upper Flammability Limit ^{b)}	13%
Odor	Ethereal	Vapor Pressure @20 °C	Not available
Odor Threshold	Not available	Vapor Density	>2 (Air = 1)
рН	Not available	Specific Gravity @25 °C	0.89
Freezing/Melting	Not	Solubility in	Partially
Point	available	Water	miscible
Boiling Point ^{a)}	≥56 °C	Partition	Not
	[≥133 °F]	Coefficient	available
Flash Point ^{a)}	-17 °C	Auto-ignition	≥315 °C
	[1.4 °F]	Temperature ^{c)}	[≥599 °F]
Evaporation	Fast	Decomposition	Not
Rate		Temperature	available
Flammability	Not	Viscosity	<20.5 mm²/s
(solid, gas)	available	@40 °C	

a) Values for flash point and other threshold based on acetone

b) Calculated using Raoult's Law and Le Chatelier Principle

c) Values for based on the component with the lowest auto-ignition value



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Reactivity	Not available
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid flames, sparks, other ignition sources and incompatible substances.
Incompatibilities	Avoid oxidizing agents, strong acids, and strong bases.
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

Section 11: Toxicological Information

Likely Routes of Exposure

Skin Contact, Ingestion, Inhalation, and Eye Contact

Symptoms Summary

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Skin	May cause redness, skin irritation, or dry skin.
Ingestion	May cause burning sensation, abdominal pain, nausea, vomiting (see also inhalation symptoms).
Inhalation	May cause irritation of the respiratory track, cough, dizziness, drowsiness, headaches, (in extreme exposure cases: unconsciousness and death).
Eyes	May cause redness, serious eye irritation, pain, and blurred vision.
Chronic	Prolonged or repeated exposure may cause skin dryness and cracking, defat skin, and local redness and discomfort.
	Chronic inhalation exposure may effect the central nervous system and lead to hearing loss with co-exposure to loud noises.
	The ethylbenzene component is a possible carcinogen.
	Ingestion or inhalation of paint material, mist, or vapor during pregnancy may increase the chances fetal death and developmental defects.
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Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50	LD50	LC50
	oral	dermal	inhalation
acetone	5 800 mg/kg Rat	20 mL/kg Rabbit ^{a)}	16 000 ppm 6h Rat
xylene (mixed isomers)	4 350 mg/kg	>5 000 mg/kg	5 000 ppm
	Rat	Rabbit	4 h Rat
1-methoxy-2-propanol acetate	8 532 mg/kg	>5 g/kg	Not
	Rat	Rabbit	established
ethylbenzene	3 500 mg/kg	>5 000 mg/kg	35 500 mg/m ³
	Rat	Rabbit	2h Mouse
toluene	636 mg/kg	12 124 mg/kg	49 g/m³
	Rat	Rabbit	4h Rat

Note: Toxicity data from the RTECS² and ECHA databases were consulted. The data from supplier SDSs were also consulted.

a) According to the Sigma-Aldrich safety data sheet version 4.3, date: 02/20/2013

Other Toxicological Effects

Skin corrosion/irritation	Causes a skin irritation based on Draize tests on animals.
Serious eye damage/irritation	Causes severe eye irritation based on Draize tests on animals.
Sensitization (allergic reactions)	Based on available data, the classification criteria are not met.
Carcinogenicity	Ethylbenzene [CAS# 106-41-4]
(risk of cancer)	IARC Group 2B: Possibly carcinogenic to humans
	ACGIH A3: Confirmed animal carcinogen with unknown relevance to humans
	CA Prop 65: Listed as a carcinogen
	NTP: Not listed
Mutagenicity (risk of heritable genetic effects)	Based on available data, the classification criteria are not met.
Reproductive Toxicity (risk to sex functions)	At high doses, spermatogenisis was observed in male rat by inhalation of toluene.



	Burnington, Ontario, Canada	
SILICONE MODIFIEDCONFORMAL COATING422B-LITeratogenicity (risk of fetus malformation)Fetotoxicity is observed in animal studies for inhalatio oral exposures for toluene.422B-LI		
STOT-single exposure STOT-repeated exposure	 Acetone, xylene, 1-methoxy-2-propanol acetate, and toluene can affect the central nervous system by inhalation causing drowsiness or dizziness. re Contains toluene, which is a Cat 2 STOT repeated exposure hazard for the central nervous system and cochlear systems. 	
	Toluene and xylenes are ototoxic chemicals according to rat studies: inhalation exposure in the presence of noise may lead to cochlear impairment.	
Aspiration hazard	The liquid content is classified as Cat 1 aspiration hazards. The mixture containing more than 10% Class 1 aspiration toxicant and having a viscosity <20.5 mm ² /s	

Section 12: Ecological Information

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (<u>http://echa.europa.eu</u>), and other reliable sources.

Acetone is not classifiable as an aquatic toxicant. Acetone has a minimal LC50 96 h of 5 540 mg/L for Oncorhynchus mykiss (rainbow trout); EC50 48 h 13 500 mg/L Daphnia magna (water flea).

Xylene isomers mixture are expected to be acute category 2 environmental toxicant with minimal LC50 of 2.5 mg/L for fish.

The 1-methoxy-2-propanol acetate component is an acute category 3 environmental toxicant with minimal LC50 96 h of \geq 100 mg/L Salmo gairdneri.

Ethylbenzene is an acute category 2 environmental toxicant with minimal LC50 of 4.2 mg/L for Oncorhhynchus mykiss (rainbow trout); 2.9 mg/L 48 h Daphnia magna (water flea).

Toluene is an acute category 2 environmental toxicant. It is rapidly biodegraable and has a minimal LC50 of 7.63 mg/L for Oncorhhynchus mykiss (rainbow trout); 8.9 mg/L 24 h Daphnia magna (water flea); 10 mg/L 24 h Pseudokirchneriella subcapitata (green algae).

Acute Ecotoxicity

See chronic ecotoxicity.

Chronic Ecotoxicity

Category 3 Harmful to aquatic life with long lasting effects. Avoid release to the environment.

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Biodegradability

Solvents are expected to be biodegrable. The volatile solvent constituents will oxidize rapidly in air by photochemical reaction.

Other Effects

Regulated Volatile Organic Content (VOC) = 32% (289 g/L)

Section 13: Disposal Information

Dispose of contents in accordance with all local, regional, national, and international regulations.

Section 14: Transport Information

Ground

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); **USA DOT 49 CFR** (Parts 100 to 185) **Regulations**.

Sizes 5 L and under

Limited Quantity



Sizes greater than 5 L UN number: UN1263 Shipping Name: PAINT Class: 3 Packing Group: II Marine Pollutant: No Flash Point = -17 °C [1.4 °F]



Air

Refer to ICAO-IATA Dangerous Goods Regulations.

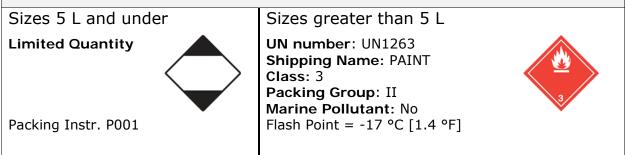
Sizes 0.5 L and under	Sizes up to 5 L (Passenger), 60 L (Cargo)
Limited Quantity Total Net QTY per package 1 L	UN number: UN1263 Shipping Name: PAINT Class: 3 Packing Group: II Marine Pollutant: No Flash Point = -17 °C [1.4 °F]



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Sea

Refer to IMDG regulations.



Note: Shipper must be appropriately <u>trained and certified</u> before involvement with the transport of dangerous goods.

Section 15: Regulatory Information

Canada

Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL/NDSL.

Industry and Science Canada

MG Labels products intended for the workplace to conform to WHMIS labeling regulations. Product identification, net quantity declaration, minimum printing type size heights, and packaging of this product are in compliance.

USA

Other Classifications

HMIS® RATING

HEALTH:	*	2
FLAMMABILITY:		3
PHYSICAL HAZARD:		0
PERSONAL PROTECTION:		

NFPA® 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend: 0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

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CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product contains xylenes, ethylbenzene, and toluene that are listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains ethylbenzene (CAS # 100-41-4; reportable quantity = 1000 lb), xylene (CAS# 1330-20-7, reportable quantity = 100 lb), and toluene (CAS# 108-88-3; reportable quantity = 1000 lb), which are subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

This product contains acetone (CAS# 78-93-3, reportable quantity = 5000 lb), which can be subject to the CERCLA reporting requirements.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, June 06, 2014 revision, USA).

This product contains ethylbenzene (CAS # 100-41-4), which is listed as a carcinogen.

This product contains toluene, which is listed as reproductively toxic.

Europe

RoHS (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, or PBDE's, and complies with European RoHS regulations.

WEEE (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

Section 16: Other Information

SDS Prepared by	Michel Hachey
Date of Revision	06 January 2017
Supersedes	31 October 2016
Reason for Changes:	Changed product name.

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Reference

1) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

2) ACGIH 2011 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2011).

Abbreviations

- ACGIH American Conference of Governmental Industrial Hygienists (USA)
- ECHA European Chemicals Agency
- EU European Union
- EC50 Half maximal effective concentration
- EL50 Half maximal effective loading
- IARC International Agency for Research on Cancer
- NOELR No observable effect loading ratio
- NTP National Toxicology Program
- GHS Globally Harmonized System of Classification of Labeling of Chemicals
- LC50 Lethal Concentration 50%
- LCLo Lowest published lethal concentration
- LD50 Lethal Dose 50%
- OEL Occupational Exposure Limit
- PEL Permissible Exposure Limit
- SDS Safety Data Sheet
- STEL Short-Term Exposure Limit
- TCLo Lowest published toxic concentration
- TWA Time Weighted Average
- VOC Volatile Organic Content
- **Technical Queries** Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at <u>www.mgchemicals.com</u>.

Email: support@mgchemicals.com

Mailing Addresses	Manufacturing & Support
	1210 Corporate Drive
	Burlington, Ontario, Canada
	L7L 5R6

Head Office 9347–193rd Street Surrey, British Columbia, Canada V4N 4E7

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