422C

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: 422C

Other Means of Identification: Silicone Conformal Coating / Vernis de Tropicalisation de Silicone

Related Part # 422C-P, 422C-55ML, 422C-55MLCA, 422C-945ML, 422C-3.78L, 422C-19L

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

☎	+1-800-340-0772	☎	+1-905-331-1396
Fax	+1-800-340-0773	**Fax**	+1-905-331-2682
E-mail	support@mgchemicals.com	**E-mail**	info@mgchemicals.com
Web	www.mgchemicals.com		

E-MAIL (Competent Person): sds@mgchemicals.com

Emergency Phone Number

For hazardous material incidents ONLY (leaks, spills, fires, exposures or accidents)
USA or CANADA—Call Verisk 3E at ***+1-866-519-4752*** or ***+1-760-476-3962***
(Service access code: 335388)

For emergencies involving the transport of dangerous goods; 24/7 service
CANADA—Call CANUTEC collect at ***+1-613-996-6666*** or ****666*** on cellular phones

Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Eye Damage		1	Danger	Corrosion
Flammable Liquid		2	Danger	Flame
Specific Target Organ Toxicity	Single	3	Warning	Exclamation

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**
	H318: Causes serious eye damage
	H225: Highly Flammable liquid and vapor
	H336: May cause drowsiness or dizziness

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Prevention	**Precautionary Statements**
P102	Keep out of reach of children.
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, and lighting equipment.
P243	Take action to prevent static discharges.
P261	Avoid breathing mist, vapors, and spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, and eye protection.
P264	Wash hands thoroughly after handling.
Response	**Precautionary Statements**
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338	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.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor if you feel unwell.
Storage	**Precautionary Statements**
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
Disposal	**Precautionary Statements**
P501	Dispose of contents in accordance to local, regional, national, and international regulations.

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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

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
67-64-1	acetone	39%
123-86-4	n-butyl acetate	25%
2530-83-8	silane, trimethoxy[3-(oxiranylmethoxy)propyl]	3%
78-83-1	isobutanol	<1%
108-88-3	toluene	<0.1%

Section 4: First-Aid Measures

Exposure Condition	*GHS Code/Symptoms/Precautionary Statements*
IF IN EYES	P305 + P351 + P338, P310
Immediate Symptoms	*redness, pain, blurred vision, possible corneal damage*
Response	Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
IF ON SKIN (or hair)	P303 + P361 + P353
Immediate Symptoms	*Low toxicity: dry skin, redness*
Response	Take off immediately all contaminated clothing. Rinse skin with water or shower.
IF INHALED	P304 + P340, P312
Immediate Symptoms	*cough, sore throat, headache, dizziness, drowsiness, shortness of breath*
Response	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.

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IF SWALLOWED	P301 + P330 + P331
Immediate Symptoms	*Low toxicity: abdominal pain, nausea, diarrhea, vomiting*
Response	Rinse mouth. Do NOT induce vomiting.

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	May produces irritating and toxic fumes in fires or in contact with hot surfaces. 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.
Combustion Products	Produces carbon oxides (CO, CO_2), silicon oxides (SiO_2), formaldehyde and other toxic fumes.
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	Avoid breathing the mist, spray or vapors. Remove or keep away all sources of ignition or extreme heat.
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.

Section 7: Handling and Storage

Prevention	Keep out of reach of children.
	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	Avoid breathing mist, vapors, or spray. Use only outdoors or in a well-ventilated area. Keep container tightly closed.
	Take action to prevent static discharges. Use explosion-proof electrical, ventilating, and lighting equipment.
Handling	Ground and bond container and receiving equipment.
	Wear protective gloves, protective clothing, and eye protection.
	Wash hand thoroughly after handling.
Storage	Store in a well-ventilated place. Keep cool.
	Store locked up.

Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

Chemical Name	Country/Province	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
acetone	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	500 ppm 1 000 ppm 500 ppm 250 ppm 500 ppm 750 ppm	750 ppm Not established 750 ppm 500 ppm 750 ppm 1 000 ppm

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Chemical Name	Country/Province	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
n-butyl acetate	ACGIH	150 ppm	200 ppm
	U.S.A. OSHA PEL	150 ppm	Not established
	Canada AB	150 ppm	200 ppm
	Canada BC	20 ppm	Not established
	Canada ON	150 ppm	200 ppm
	Canada QC	150 ppm	200 ppm
isobutanol	ACGIH	50 ppm	Not established
	U.S.A. OSHA PEL	100 ppm	Not established
	Canada AB	50 ppm	Not established
	Canada BC	50 ppm	Not established
	Canada ON	50 ppm	Not established
	Canada QC	50 ppm	Not established
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 ACGIH[1], OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from suppliers' SDSs were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

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: Ensure that glasses have side shields for lateral protection.

Skin Protection — For likely contacts, use of protective butyl rubber or other chemically resistant gloves.

For incidental contacts, use nitrile or other chemically resistant gloves.

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Respiratory Protection	For over-exposures up to 10 x OEL of mist, vapors, or 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 cartridge 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.

Section 9: Physical and Chemical Properties

Physical State	Liquid	**Lower Flammability Limit** [b]	2.4%
Appearance	Clear	**Upper Flammability Limit** [b]	12.8%
Odor	Ester-like	**Vapor Pressure @20 °C** [b]	184 hPa [138 mmHg]
Odor Threshold	Not available	**Vapor Density**	<2.01 (Air = 1)
pH	Not available	**Relative Density @25 °C**	0.79
Freezing/Melting Point	Not available	**Solubility in Water**	Miscible
Initial Boiling Point [a]	56 °C [132 °F]	**Partition Coefficient n-octanol/water**	Not available
Flash Point [a]	-17 °C [1.4 °F]	**Auto-ignition Temperature** [c]	465 °C [869 °F]
Evaporation Rate	<1 (ButAc = 1)	**Decomposition Temperature**	Not available
Flammability	Highly flammable	**Viscosity @25 °C**	<20.5 mm^2/s

a) Values based on acetone.
b) Values based on Raoult's Law and Le Chatelier's principle.
c) Values based on n-butyl acetate.

Section 10: Stability and Reactivity

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	Strong oxidizing agents, strong bases, strong reducing agents, strong acids
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Eyes	Causes redness, pain, blurred vision, and possible corneal damage.
Skin	Low toxicity: May cause dry skin and redness.
Inhalation	May cause coughing, sore throat, headache, dizziness, drowsiness, and shortness of breath.
Ingestion	Low toxicity: May cause abdominal pain, nausea, diarrhea, and vomiting.
Chronic	Prolonged or repeated exposure may cause skin may cause skin dryness and cracking.

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Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
acetone	5 800 mg/kg Rat	20 mL/kg Rabbit [a)]	16 000 ppm 4 h Rat
n-butyl acetate	>10 768 mg/kg Rat	>17 600 mg/kg Rabbit	390 ppm 4 h Rat
silane, trimethoxy[3-(oxiranylmethoxy)propyl]	Not available	Not available	Not available
isobutanol	2 830 mg/kg Rat	2 460 mg/kg Rabbit	Not available
toluene	5 580 mg/kg Rat	12 124 mg/kg Rabbit	49 g/m^3 4 h Rat

Note: Toxicity data from the ECHA databases were consulted. The data from supplier SDSs were also consulted.
a) According to supplier safety data sheet.

Other Toxicological Effects

Skin Corrosion/Irritation	Based on available data, the classification criteria are not met.
Serious Eye Damage/Irritation	Silane, trimethoxy[3-(oxiranylmethoxy) propyl]- and isobutanol can cause eye damage.
Sensitization (allergic reactions)	Based on available data, the classification criteria are not met.
Carcinogenicity (risk of cancer)	None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.
Mutagenicity (risk of heritable genetic effects)	Based on available data, the classification criteria are not met.
Reproductive Toxicity (risk to sex functions)	Based on available data, the classification criteria are not met.
Teratogenicity (risk of fetus malformation)	Based on available data, the classification criteria are not met.
STOT-Single Exposure	The ingredients acetone and n-butyl acetate can affect the central nervous system by inhalation causing drowsiness or dizziness.

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STOT-Repeated Exposure	Based on available data, the classification criteria are not met.
Aspiration Hazard	Based on available data, the classification criteria are not met. There are no cat 1 substances, and the kinematic viscosity is <20.5 mm^2/s at 40 °C.

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 (http://echa.europa.eu), and other reliable sources.

The n-butyl acetate ingredient is an acute category 3 environmental toxicant liquid (biodegradable, with minimal LC50 of 18 mg/L for fathead minnow).

The ingredients acetone, silane, trimethoxy[3-(oxiranylmethoxy) propyl], and isobutanol are not classified as an environmental hazard according to GHS criteria.

- Acetone has a minimal LC50 96 h of 5 540 mg/L for Oncorhynchus mykiss (rainbow trout) and an EC50 48 h of 13 500 mg/L for Daphnia magna (water flea).
- Silane, trimethoxy[3-(oxiranylmethoxy) propyl] has a minimal LC50 96 h of 55 mg/L for Cyprinus carpio (Carp), an EC50 48 h of 1 100 mg/L for Daphnia pulex (water flea), and an EC50 72 h of 255 mg/L for Desmodesmus subspicatus (green algae).
- Isobutanol has a minimal LC50 96 h 1 430 mg/L for Pimephales promelas (fathead minnow), an EC50 48 h of 473 mg/L for Daphnia magna (water flea), and an EC50 72 h of 1 799 mg/L for Pseudokirchneriella subcapitata (algae).

Acute Ecotoxicity

Available toxicity data does not meet classification thresholds.

Chronic Ecotoxicity

Available toxicity data does not meet classification thresholds.

Other Effects

Actual Volatile Organic Compounds (VOC) with low vapor pressure exemption = 30% [271 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 (Canadian Transportation of Dangerous Goods regulations) and **USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**

Sizes over 30 mL to 5 L
422C-55ML, 422C-55MLCA, 422C-945ML, 422C-3.78L
Limited Quantity

Max Qty/Outer Pkg = 30 kg Gross

Sizes 30 mL and under
422C-P
Excepted Quantity
Document as class **E2**

Sizes greater than 5 L
422C-19L

UN number: UN1263
Shipping Name: PAINT
Class: 3
Packing Group: II
Marine Pollutant: No

Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes over 30 mL to 500 mL [a)]
422C-55ML, 422C-55MLCA
Limited Quantity

Max Net Qty/Outer Pkg = 1 L

Sizes 30 mL and under
422C-P
Excepted Quantity
Document as class **E2**
On air waybill, write: "Dangerous Goods in Excepted Quantities".

Sizes up to 5 L (passenger), 60 L (cargo)
422C-945ML, 422C-3.78L, 422C-19L
UN number: UN1263
Shipping Name: PAINT
Class: 3
Packing Group: II
Marine Pollutant: No

a) Max net quantity per inner packaging in a combination packaging

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Sea

Refer to IMDG regulations.

Sizes over 30 mL to 5 L
422C-55ML, 422C-55MLCA, 422C-945ML, 422C-3.78L
Limited Quantity

Max Qty/Outer Pkg = 30 kg Gross

Sizes 30 mL and under
419D–P-CL
Excepted Quantity
Document as class **E2**
In transport document, write:
"Dangerous Goods in Excepted Quantities".

Sizes greater than 5 L
422C-19L

UN number: UN1263
Shipping Name: PAINT
Class: 3
Packing Group: II
Marine Pollutant: No

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.

Hazardous Products Act (R.S.C., 1985, c. H-3)

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

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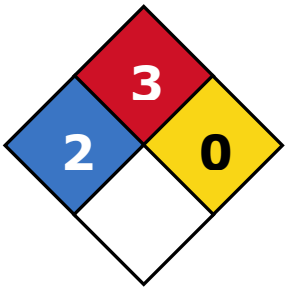
USA

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)

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 does not contain substances that are listed as hazardous air pollutants.

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

This product contains n-butyl acetate (CAS# 123-86-4), acetone (CAS# 67-64-1), isobutanol (CAS# 78-83-1), which is subject to the CERCLA reporting requirements at the 5 000 lb (2 268 kg) threshold.

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

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

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

Europe

RoHS (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP 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	MG Chemical's Regulatory Department
Date of Creation	07 December 2023
Supersedes	27 January 2021
Reason for Changes:	Minor update

Reference

1) ACGIH *2023 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 (2023).

Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
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
Wt	Weight

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422C

Technical Queries

Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at www.mgchemicals.com.

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Mailing Addresses

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This safety data sheet is provided as an information resource only. M.G. Chemicals, Ltd. believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to query and verify any information seeming suspect where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, regional, national, and international regulations.