

4223E

# Safety Data Sheet

## Section 1: Identification

### Product Identifier and Other Means of Identification

**Product Identifier:** 4223E Premium Polyurethane Conformal Coating

**Other Means of Identification:** 4223E Vernis de Tropicalisation—Polyuréthane Premium

**Related Part #** 4223E-1L, 4223E-4L, 4223E-20L

### Recommended Use and Restriction on Use

**Use:** Conformal coating


**Uses Advised Against:** Not available

### 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

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**WEB** [www.mgchemicals.com](http://www.mgchemicals.com)

 +1-905-331-1396

**FAX** +1-905-331-2682

**E-MAIL** [info@mgchemicals.com](mailto:info@mgchemicals.com)

**E-MAIL** (Competent Person): [sds@mgchemicals.com](mailto: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

**4223E**
**Section 2: Hazards Identification**
**Classification of Hazardous Chemical**
**GHS Categories**

Criteria	Category	Signal Word	Pictograms
Flammable Liquid	2	Danger	Flame
Skin Irritation	2	Warning	Exclamation
Specific Target Organ Toxicity Single Exposure	3	Warning	Exclamation
Hazardous to the Aquatic Environment Chronic	2	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**

<b>Signal Word</b>	<b>DANGER</b>
<b>Pictograms</b>	<b>Hazard Statements</b>
	H225: Highly flammable liquid and vapor
	H315: Cause skin irritation H336: May cause dizziness or drowsiness
	H411: Toxic to aquatic life with long lasting effects

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<b>Prevention</b>	<b>Precautionary Statements</b>
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion proof equipment.
P243	Take action to prevent static discharges.
P233	Keep container tightly closed.
P261	Avoid breathing mist, vapors, or spray.
P271	Use only outdoors or in well ventilated area.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves, protective clothing, and eye protection.
P273	Avoid release to the environment.
<b>Response</b>	<b>Precautionary Statements</b>
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
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 or attention.
P363	Wash contaminated clothing before reuse.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTRE or doctor if you feel unwell.
P391	Collect spillage
<b>Storage</b>	<b>Precautionary Statements</b>
P403 + P235	Store in well ventilated place. Keep cool.
P405	Store locked up.
<b>Disposal</b>	<b>Precautionary Statements</b>
P501	Dispose of contents in accordance to local, regional, national and international regulations.

*Section continued on the next page*

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**Hazards Not Otherwise Specified**

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)
64742-47-8	distillates, petroleum, hydrotreated light	40-50%
78-93-3	butan-2-one	>7 and <10%

The exact percentage (concentration) of composition has been withheld as a trade secret.

**Section 4: First-Aid Measures**

<i>Exposure Condition</i>	<i>GHS Code/Symptoms/Precautionary Statements</i>
<b>IF ON SKIN (or hair)</b>	P303 + P361 + P352, P332 + P313, P363
<b>Immediate Symptoms</b>	<i>irritation, redness, dry skin</i>
<b>Response</b>	Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Wash contaminated clothing before reuse.
<b>IF INHALED</b>	P304 + P340, P312
<b>Immediate Symptoms</b>	<i>dizziness, drowsiness, headaches, nausea, vomiting</i>
<b>Response</b>	Remove person to fresh air and keep comfortable for breathing. If feeling unwell: Call a doctor.
<b>IF IN EYES</b>	P305 + P351 + P338, P337 + P313
<b>Immediate Symptoms</b>	<i>mild irritation, redness</i>
<b>Response</b>	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
<b>IF SWALLOWED</b>	P301 + P330 + P331, P308 + P313
<b>Immediate Symptoms</b>	<i>nausea, dizziness, drowsiness, headaches, vomiting, diarrhea</i>
<b>Response</b>	Rinse mouth. Do NOT induce vomiting.

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**Section 5: Fire Fighting Measures**

<b>Extinguishing Media</b>	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.  Use water spray to cool the containers.
<b>Specific Hazards</b>	Vapors are heavier than air, and may travel to sources of ignition near the ground. Vapors may travel long distances and ignite at an ignition source, which can cause a flashback or an explosion.
<b>Combustion Products</b>	Produces CO and CO <sub>2</sub>
<b>Fire-Fighter</b>	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

**Section 6: Accidental Release Measures**

<b>Personal Protection</b>	Use personal protection recommended in Section 8.
<b>Precautions for Response</b>	Avoid breathing mist, vapors, or spray. Remove or keep away all sources of ignition or extreme heat.
<b>Environmental Precautions</b>	Prevent spill from entering drains and waterways.
<b>Containment Methods</b>	Contain with inert absorbent (such as soil, sand, vermiculite).
<b>Cleaning Methods</b>	Sprinkle inert absorbent compound (sand, diatomite, acid binders, universal binders) onto spill, then sweep into a corrosion resistant (plastic) waste container. Wash spill area with soap and water to remove the last traces of residue.  <b>RECOMMENDATION:</b> Use a grounded stainless steel or carbon steel container.
<b>Disposal Methods</b>	Dispose of spill waste according to Section 13.

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**Section 7: Handling and Storage**
**Prevention**

Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. No smoking.

Ground and bond container and receiving equipment. Take action to prevent static discharges. Use explosion proof equipment. Keep container tightly closed.

Avoid breathing mist, vapors, or spray. Use only outdoors or in well ventilated area.

Avoid release to the environment.

**Handling**

Wear protective gloves, protective clothing, and eye protection.

Wash hands thoroughly after handling.

Collect spillage.

**Storage**

Store in well ventilated place. Keep cool. Store locked up.

**Section 8: Exposure Controls/Personal Protection**
**Substances with Occupational Exposure Limit Values**

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
distillate, petroleum, hydrotreated light (aerosol)	ACGIH	200 mg/m <sup>3</sup>	Not established
	U.S.A. OSHA PEL	Not established	Not established
	Canada AB	200 mg/m <sup>3</sup>	Not established
	Canada BC	200 mg/m <sup>3</sup> (Skin)	Not established
	Canada ON	200 mg/m <sup>3</sup>	Not established
	Canada QC	Not established	Not established
butan-2-one	ACGIH	200 ppm	300 ppm
	U.S.A. OSHA PEL	200 ppm	Not established
	Canada AB	200 ppm	300 ppm
	Canada BC	50 ppm	100 ppm
	Canada ON	200 ppm	300 ppm
	Canada QC	150 ppm	300 ppm

*Note:* Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH<sup>1</sup>, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from by RTECS<sup>2</sup> 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.

Skin—can be absorbed through the skin

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### Engineering Controls

**Ventilation** Keep airborne concentrations below 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 nitrile gloves or other chemically resistant gloves.

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

**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 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**

<b>Physical State</b>	Liquid	<b>Lower Flammability Limit</b>	0.8%
<b>Appearance</b>	Clear	<b>Upper Flammability Limit</b>	7.9%
<b>Odor</b>	Mild petroleum	<b>Vapor Pressure @20 °C</b>	Not available
<b>Odor Threshold</b>	Not available	<b>Vapor Density</b>	>2.5 (Air =1)
<b>pH</b>	Not available	<b>Relative Density @25 °C</b>	0.88
<b>Freezing/Melting Point</b>	Not available	<b>Solubility in Water</b>	Partially soluble
<b>Initial Boiling Point</b>	80 °C [176 °F]	<b>Partition Coefficient n-octanol/water</b>	Not available
<b>Flash Point</b>	-3 °C [27 °F]	<b>Auto-ignition Temperature</b>	216 °C [420 °F]
<b>Evaporation Rate</b>	Not available	<b>Decomposition Temperature</b>	Not available
<b>Flammability</b>	Highly flammable	<b>Viscosity @40 °C</b>	>20.5 mm <sup>2</sup> /s

**Section 10: Stability and Reactivity**

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



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**Section 11: Toxicological Information**
**Summary of Effects and Symptoms by Routes of Exposure**

<b>Eyes</b>	May cause eye redness or mild irritation.
<b>Skin</b>	Causes skin irritation, dry skin and redness.
<b>Inhalation</b>	Exposure may lead to dizziness, drowsiness, headaches, nausea, and vomiting. Severe overexposure may lead to loss of consciousness.
<b>Ingestion</b>	It may cause nausea, dizziness, drowsiness, headaches, vomiting, and diarrhea.
<b>Chronic</b>	Prolonged and repeated exposure may cause dermatitis, defatting of the skin and adverse central nervous systems effects.

**Acute Toxicity (Lethal Exposure Concentrations)**

<b>Chemical Name</b>	<b>LD50 oral</b>	<b>LD50 dermal</b>	<b>LC50 inhalation</b>
distillates (petroleum) hydrotreated light	>5 000 mg/kg Rat	>2 000 mg/kg Rabbit	5.28 mg/L 4 h Rat
buta-2-none	2 737 mg/kg Rat	6 480 mg/kg Rabbit	23 500 mg/m <sup>3</sup> 8 h Rat

*Note:* Toxicity data from the RTECS<sup>2</sup> and ECHA databases were consulted. The data from supplier SDS were also consulted.

**Other Toxicological Effects**

<b>Skin corrosion/irritation</b>	Causes skin irritation based on the contribution of the distillates (petroleum) hydrotreated light.
<b>Serious eye damage/irritation</b>	Based on available data, the classification criteria are not met. The contribution of butan-2-one does not trigger classification of the mixture.
<b>Sensitization</b> (allergic reactions)	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b> (risk of cancer)	Not classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP
<b>Mutagenicity</b> (risk of heritable genetic effects)	Based on available data, the classification criteria are not met.

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<b>Reproductive Toxicity</b> (risk to sex functions)	Based on available data, the classification criteria are not met.
<b>Teratogenicity</b> (risk of fetus malformation)	Based on available data, the classification criteria are not met.
<b>STOT-single exposure</b>	May cause dizziness or drowsiness
<b>STOT-repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	The liquid content is not an aspiration hazard. It has a kinematic viscosity $>20.5 \text{ mm}^2/\text{s}$ .

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

Distillates, petroleum, hydrotreated light is a chronic category 2 environmental toxicant.

The butan-2-one has minimal LC50 96 h of 3 130 mg/L for Pimephales promelas (fathead minnow); EC50 48 h 520 mg/L Daphnia magna (water flea).

**Acute Ecotoxicity**

See chronic ecotoxicity.

**Chronic Ecotoxicity**

Category 2

Toxic to aquatic life with long lasting effects.

Avoid release to the environment. Collect spillage.

**Biodegradability**

Non biodegradable

**Other Effects**

Volatile Organic Compounds (VOC) = 55% [486 g/L]

**Section 13: Disposal Considerations**

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

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**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  
4223E-1L, 4223E-4L  
**Limited Quantity**



Sizes greater than 5 L  
4223E-20L

**UN number:** UN1263  
**Shipping Name:** PAINT  
**Class:** 3  
**Packing Group:** II  
**Marine Pollutant:** Yes



**Air**

**Refer to ICAO-IATA Dangerous Goods Regulations.**

Sizes 0.5 L and under  
*FOR REFERENCE ONLY*  
**Limited Quantity**

Sizes up to 5 L (passenger), 60 L (cargo)  
4223E-1L, 4223E-4L, 4223E-20L

**UN number:** UN1263  
**Shipping Name:** PAINT  
**Class:** 3  
**Packing Group:** II  
**Marine Pollutant:** Yes



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## Sea

### Refer to IMDG regulations.

Sizes 5 L and under

4223E-1L, 4223E-4L

**Limited Quantity**


Sizes greater than 5 L

4223E-20L

**UN number:** UN1263

**Shipping Name:** PAINT

**Class:** 3

**Packing Group:** II

**Marine Pollutant:** Yes


**Note: Shipper must be appropriately trained and certified 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.

#### 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.

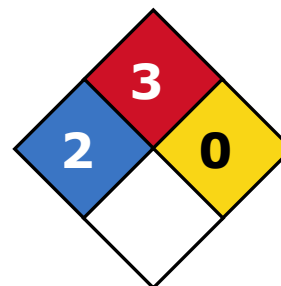
### USA

#### Other Classifications

##### HMIS® RATING

<b>HEALTH:</b>	* 2
<b>FLAMMABILITY:</b>	3
<b>PHYSICAL HAZARD:</b>	0
<b>PERSONAL PROTECTION:</b>	

##### 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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Date of Revision: 05 March 2020 / Ver. 2.01

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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 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 butan-2-one (CAS# 78-93-3), which can be subject to the CERCLA reporting requirements at a threshold of 5000 lb (2268 kg).

### 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 does not contain any substances known to be listed 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

<b>Prepared by the</b>	Regulatory Affairs Department
<b>Date of Review</b>	05 March 2020
<b>Supersedes</b>	24 May 2016
<b>Reason for Changes:</b>	Update to the emergency phone number information.

### Reference

- 1) ACGIH 2017 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 (2017).
- 2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

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**4223E****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
NOELR	No observable effect loading ratio
GHS	Globally Harmonized System of Classification of Labeling of Chemicals
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
PEL	Permissible Exposure Limit
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 [www.mgchemicals.com](http://www.mgchemicals.com).

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