

8311

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: 8311**Other Means of Identification:** Conformal Coating Stripper—Gel**Related Part #** 8311-150ML, 8311-850ML, 8311-3.78L

Recommended Use and Restriction on Use

Use: Conformal coating stripper**Uses Advised Against:** FOR INDUSTRIAL USE ONLY

Details of Manufacturer or Importer

ManufacturerMG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA**☎** +1-800-340-0772**FAX** +1-800-340-0773**E-MAIL** support@mgchemicals.com**WEB** www.mgchemicals.com**☎** +1-905-331-1396**FAX** +1-905-331-2682**E-MAIL** info@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

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Section 2: Hazard(s) Identification
Classification of the Hazardous Material
GHS Categories

Criteria	Category	Signal Word	Pictograms
Reproductive Toxicity	1B	Danger	Health
Sensitization Skin	1	Warning	Exclamation
Eye Irritation	2	Warning	Exclamation
Skin Irritation	2	Warning	Exclamation
Specific Target Organ Toxicity Single Exposure	3	Warning	Exclamation
Flammable Liquids	3	Warning	Flame
Hazardous to the Aquatic Environment Chronic	2	<i>none</i>	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
	H360: May damage fertility or the unborn child
	H317: May cause an allergic skin reaction H319: Causes serious eye irritation H315: Causes skin irritation H335: May cause respiratory irritation
	H226: Flammable liquid and vapor

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Pictograms	Hazard Statements
	H411: Toxic 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, hot surfaces, 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 equipment.
P243	Take action to prevent static charges.
P261	Avoid breathing mist, spray, and vapors.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, and eye protection.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
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 or attention.
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 advice or attention.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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Response	Precautionary Statements
P312	Call a POISON CENTER or doctor if you feel unwell.
P303 + P361 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water or shower.
P333 + P313	If skin irritation or rash occurs: Get medical advice or attention.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
Storage	Precautionary Statements
P405	Store locked up.
P403 + P235	Store in a well-ventilated area. Keep cool.
Disposal	Precautionary Statements
P501	Dispose of contents in accordance to local, regional, national, and international regulations.

Hazards Not Otherwise Classified

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
Skin permeation	Can be absorbed through the skin and act as a toxicant carrier.	None	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
872-50-4	1-methyl-2-pyrrolidinone	68%
5989-27-5	d-limonene	22%
99-85-4	p-mentha-1,4-diene	3%
127-91-3	pin-2(10)-ene	1%
586-62-9	p-mentha-1,4(8)-diene	1%
123-35-3	myrcene	1%
80-56-8	pin-2(3)-ene	1%
8002-74-2	paraffin waxes and hydrocarbon waxes	1%
99-86-5	p-mentha-1,3-diene	0.5%

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Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
IF SWALLOWED	P301 + P330, P331, P308 + P313
Immediate Symptoms	<i>irritation of digestive tract</i>
Response	Rince mouth. Do NOT induce vomiting. IF exposed or concerned: Get medical advice.
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	<i>redness, severe irritation, pain</i>
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 attention.
IF INHALED	P304 + P340, P312, P308 + P313
Immediate Symptoms	<i>cough, irritation of the respiratory track, headache</i>
Response	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If exposed or concerned: Get medical advice or attention.
IF ON SKIN (or hair)	P303 + P361 + P352, P333 + P313, P308 + P313, P363
Immediate Symptoms	<i>redness, irritation, dry skin, rash</i>
Response	Take off immediately all contaminated clothing. Wash with plenty of water or shower. If skin irritation or rash occurs: Get medical advice or attention. If exposed or concerned: Get medical advice or attention. Wash contaminated clothing before reuse.

8311**Section 5: Fire-Fighting Measures**

Extinguishing Media	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
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) and nitrous oxides (NO _x).
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

Section 6: Accidental Release Measures

Personal Protection	Use personal protection recommended in Section 8.
Precautions for Response	Avoid breathing the mist, spray, and vapors. Remove or keep away all sources of extreme heat or open flames.
Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways.
Containment Methods	Contain with inert 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.
Disposal Methods	Dispose 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, hot surfaces, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof equipment. Take action to prevent static charges. Keep container tightly closed.

Avoid breathing mist, spray, and vapors. Use only outdoors or in a well-ventilated area. Keep container tightly closed.

Contaminated work clothing should not be allowed out of the workplace.

Avoid release to the environment.

Handling

Wear protective gloves, protective clothing, and eye protection.

Take off contaminated clothing and wash it before reuse.

Wash hands thoroughly after handling.

Collect spillage.

Storage

Store in a well-ventilated area. 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)
1-methyl-2-pyrrolidinone	ACGIH	Not established	Not established
	U.S.A. OSHA PEL	Not established	Not established
	Canada AB	Not established	Not established
	Canada BC	Not established	Not established
	Canada ON	400 mg/m ³	Not established
	Canada QC	Not established	Not established

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Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
d-limonene	ACGIH	Not established	Not established
	U.S.A. OSHA PEL	Not established	Not established
	U.S.A. WEEL	30 ppm	Not established
	Canada AB	Not established	Not established
	Canada BC	Not established	Not established
	Canada ON	Not established	Not established
	Canada QC	Not established	Not established
turpentine and selected monoterpenes <i>(CAS# 127-91-3 and 80-56-8)</i>	ACGIH	20 ppm (TWA)	Not established
	U.S.A. OSHA PEL	Not established	Not established
	U.S.A. WEEL	Not established	Not established
	Canada AB	20 ppm	Not established
	Canada BC	Not established	Not established
	Canada ON	Not established	Not established
paraffin waxes and hydrocarbon waxes, fume	Canada QC	Not established	Not established
	ACGIH	2 mg/m ³	Not established
	U.S.A. OSHA PEL	Not established	Not established
	Canada AB	2 mg/m ³	Not established
	Canada BC	2 mg/m ³	Not established
Canada ON	2 mg/m ³	Not established	
Canada QC	2 mg/m ³	Not established	

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 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.

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.

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Skin Protection

Wear appropriate protective clothing to prevent skin contact. Because 1-methyl-2-pyrrolidinone can be absorbed through skin use of gloves is highly recommended.

RECOMMENDATION: Use butyl rubber, latex, 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 your respirator has filter cartridges appropriate for the ingredients listed in section 3 of this SDS, and that the respirator is 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

Physical State	Liquid, gel	Lower Flammability Limit ^{b)}	0.7%
Appearance	Clear amber	Upper Flammability Limit ^{b)}	7%
Odor	Amine-like	Vapor Pressure @20 °C	Not available
Odor Threshold	Not available	Vapor Density	>2 (Air =1)
pH	Not available	Relative Density @25 °C	0.97
Freezing/Melting Point	Not available	Solubility in Water	Partially soluble
Initial Boiling Point ^{a)}	≥176 °C [≥349 °F]	Partition Coefficient, n-octanol/water	Not available
Flash Point ^{a)}	≥43 °C [≥110 °F]	Auto-ignition Temperature	≥237 °C [≥458 °F]
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability	Flammable	Viscosity @40 °C	>20.5 mm ² /s

a) Values base on d-limonene component.

b) Calculated using Raoult's Law and Le Chatelier principle.

Section 10: Stability and Reactivity

Reactivity	Not available
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Ignition sources, open flames, excessive heat, and incompatible substances
Incompatibilities	Strong oxidizing agents, strong acids, strong bases
Polymerization	Will not occur
Decomposition	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

Eyes	Causes redness, severe irritation, and pain.
Skin	Causes skin redness, irritation, dry skin, and rash. Can be absorbed through the skin and act as a toxicant carrier.
Inhalation	May cause cough, irritation of the respiratory track, and headaches.
Ingestion	May cause irritation of the digestive tract.
Chronic	Prolonged or repeated exposure may cause an allergic contact dermatitis.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
1-methyl-2-pyrrolidinone	3 914 mg/kg Rat	8 000 mg/kg Rabbit	>5.1 mg/L Rat 4 h (mist)
d-limonene	>4 400 mg/kg Rat	>5 000 mg/kg Rabbit	>1 000 mg/L Rat 4 h (vapor) ^{a)}
p-mentha-1,4-diene	3 650 mg/kg Rat	Not available	Not available
pin-2(10)-ene	4 700 mg/kg Rat	>5 000 mg/kg Rabbit	20 mg/L Rat
p-mentha-1,4(8)-diene	3 740 mg/kg Rat	>4 300 mg/kg Rabbit	Not available
myrcene	>2 000 mg/kg Rat	>5 000 mg/kg Rabbit	Not available
pin-2(3)-ene	3 700 mg/kg Rat	>5 000 mg/kg Rabbit	Not available
paraffin waxes and hydrocarbon waxes	>5 000 mg/kg Rat	>2 000 mg/kg Rat	Not available
p-mentha-1,3-diene	1 680 mg/kg Rat	Not available	Not available

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

a) From supplier SDS

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8311**Other Toxicological Effects****Skin corrosion/irritation**

The 1-methyl-2-pyrrolidinone and d-limonene components cause skin irritation.

Serious eye damage/irritation

The 1-methyl-2-pyrrolidinone component causes severe eye irritation.

Sensitization
(allergic reactions)

In its pure form, d-Limonene is not a sensitizer, but its oxidized form is a known skin sensitizer. People already sensitized to turpentine or terpenes may also be allergic to d-limonene.

Carcinogenicity
(risk of cancer)

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

Myrcene [CAS# 100-41-4]

IARC Group 2B: Not listed

ACGIH A3: Not listed

CA Prop 65: Listed as a carcinogen

NTP: Clear evidence of carcinogenic activity exists; however, NTP declined to list it in the NTP Report on Carcinogens, 14th edition

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)

At large doses of >4 000 mg/kg, 1-methyl-2-pyrrolidinone shows reproductive effects based on studies in rats and mice.

1-methyl-2-pyrrolidinone [CAS# 872-50-4]

CA Prop 65: Listed as a reproductive toxicant.

STOT-single exposure

The 1-methyl-2-pyrrolidinone component inhalation may cause irritation of the respiratory tract.

STOT-repeated exposure

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

Aspiration hazard

The liquid mixture is not an aspiration hazard. It has a kinematic viscosity >20.5 mm²/s at 40 °C.

8311**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 1-methyl-2-pyrrolidinone ingredient is not classified as an environmental hazard according to GHS criteria with minimal LC50 96 h of >500 mg/L for Pimephales promelas (fathead minnow); EC50 24 h of $\geq 1\ 000$ mg/L Daphnia pulex (water flea).

The d-limonene component is an acute category 1 environmental toxicant with minimal LC50 96 h of 0.702 mg/L for Pimephales promelas (fathead minnow); EC50 48 h of 69.6 mg/L Daphnia pulex (water flea).

The paraffin waxes and hydrocarbon waxes ingredient are not classified as an environmental hazard according to GHS criteria.

Acute Ecotoxicity

Category 1

Very toxic to aquatic life.

Chronic Ecotoxicity

Category 1

Very toxic to aquatic life with long lasting effects.

Avoid release to the environment. Collect spillage.

Biodegradability

Not available

Other Effects

Volatile Organic Compounds (VOC) = 99%

Section 13: Disposal Information

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
8311-150ML, 8311-850ML, 8311-3.78L
Limited Quantity



Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 5 L and under
8311-150ML, 8311-850ML, 8311-3.78L
Limited Quantity
Total Net QTY per
package 10 L



Sizes up to 60 L (passenger), 220 L (cargo)
FOR REFERENCE ONLY
UN number: UN2319
Shipping Name:
TERPENE HYDROCARBONS, N.O.S.
Class: 3
Packing Group: III
Marine Pollutant: Yes

Sea

Refer to IMDG Regulations.

Sizes 5 L and under
8311-150ML, 8311-850ML, 8311-3.78L
Limited Quantity



FOR REFERENCE ONLY
UN number: UN2319
Shipping Name:
TERPENE HYDROCARBONS, N.O.S.
Class: 3
Packing Group: III
Marine Pollutant: Yes

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

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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.

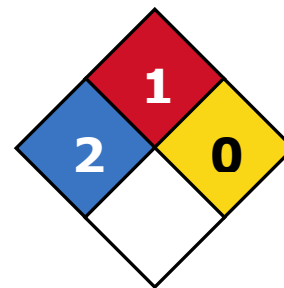
USA

Other Classifications

HMIS® RATING

HEALTH:	* 2
FLAMMABILITY:	1
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 1-methyl-2-pyrrolidinone (CAS# 872-50-4), which is subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

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

This product contains 1-methyl-2-pyrrolidinone (CAS# 872-50-4), which is listed as reproductively toxicity.

This product contains myrcene, which is listed as a carcinogen in California. However, it is a naturally occurring botanical constituent (chemical in food) that is exempted from warning for consumer products in accordance to 27 CCR §25501(b).

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

Prepared by the	Regulatory Affairs Department
Date of Revision	26 May 2022
Supersedes	20 May 2022
Reason for Changes:	Chemical ingredient change.

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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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.

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