

PREMIUM ACRYLIC CONFORMAL COATING

419D

Safety Data Sheet

Section 1: Product and Company Identification

Product Identifier and Other Means of Identification

Product Name: Premium Acrylic Conformal Coating**SDS Code:** 419D-Liquid

Recommended Use and Restriction on Use

Related Part #: 419D-1L, 419D-1G, 419D-20L**Use:** Protective dielectric coating for printed circuit boards

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**☎** 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 CHEMTREC ☎: **1-800-424-9300**

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

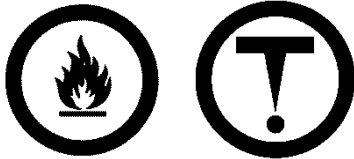
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Section 2: Hazards Identification



Classification of Hazardous Chemical

WHMIS Classification



B2 – Flammable Liquid; D2B – Toxic Material (Central nervous system intoxicant; Skin/eye irritation)

GHS Categories

Criteria	Category	Signal Word	Pictograms
Flammable Liquid	2	Danger	
Eye Irritation	2A	Warning	
Skin Irritation	2	Warning	
Specific Target Organ Toxicity Single Exposure	3	Warning	
Harmful to aquatic life Acute	3	None	No Symbol Mandated

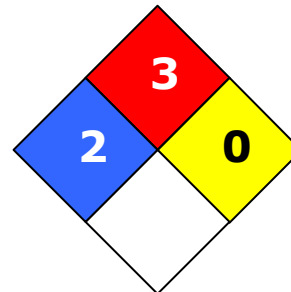
Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity). Severity categories do not allow comparisons between classes.

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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Label Elements

Signal Word	DANGER
Pictograms	Hazard Statements
	H225: Highly flammable liquid and vapor
	H319: Causes severe eye irritation H315: Cause skin irritation H336: May cause drowsiness or dizziness (affected organ: central nervous system)
No Symbol Mandated	H402: Harmful to aquatic life
	Precautionary Statements
Prevention	P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. P233: Keep container tightly closed. P242 + P241 + P243: Use only non-sparking tools. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. P261 + P271: Avoid breathing mist/vapors/ spray. Use only outdoors or in well ventilated area. P264: Wash hands thoroughly after handling. P280: Wear protective gloves/eye protection/face protection. P273: Avoid release to the environment.

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Precautionary Statements (Continued)	
Response	<p>P370 + P378: In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.</p> <p>P304 + P340 + P312: IF INHALED: Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.</p> <p>P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P303 + P361+ P364 +P352: IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water/shower.</p> <p>P332 + P337+ P313: If eye or skin irritation occurs or persists: Get medical advice/attention.</p>
Storage	<p>P403 + P235: Store in well ventilated place. Keep cool.</p> <p>P405: Store locked up.</p>
Disposal	<p>P501: Dispose of contents/container in accordance to local/regional/international regulations.</p>

Other Hazards

EUH066: Repeated exposure may cause skin dryness or cracking.

Section 3: Hazardous Ingredients

CAS #	Chemical Name	Wt%
123-86-4	n-butyl acetate	55-60%
78-93-3	2-butanone	10-15%

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Section 4: First Aid Measures

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
IF IN EYES	P305, P351, P310
Immediate Symptoms	<i>moderate to severe irritation, redness, pain</i>
Response	Rinse cautiously with water for several minutes. P338: Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists	Get medical advice/attention
IF ON SKIN	P302, P352, P362, P364, P310
Immediate Symptoms	<i>irritation, dry skin</i>
Response	Wash with plenty of water. Take off contaminated clothing and wash before reuse.
If skin irritation or rash occurs	Get medical advice/attention
IF INHALED	P304, P340, P312 <i>(Not a likely route of exposure under normal use)</i>
Immediate Symptoms	<i>irritation, headache, drowsiness, dizziness, cough</i>
Response	Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing.
If feeling unwell	Call a POISON CENTRE/doctor
IF SWALLOWED	P301, P330, P331, P312 <i>(Not a likely route of exposure under normal use)</i>
Immediate Symptoms	<i>Irritation, nausea</i>
Response	Rinse mouth. Do NOT induce vomiting.
If feeling unwell	Call a POISON CENTRE/doctor

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Section 5: Fire Fighting Measures

Autoignition Temperature	Not established	Flash Point ^{a)}	-3 °C [27 °F]	LFL [LEL] ^{b)}	1.7% (v)
				UFL [UEL]	9.1% (v)

In case of fire P370+ P378

Response Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish. Use water spray to cool containers.

Combustion Products Produces CO and CO₂.

Fire-Fighter Wear self-contained breathing apparatus for fire fighting

General Information Vapors may accumulate in low-lying areas. They can cause flash fire or ignite explosively. Material may float and ignite on surface of water.

a) Tag closed cup value

b) LFL = Lower Flammability [or Explosion] Limit (in volume %);

UFL = Upper Flammability [or Explosion] Limit (in volume %)

Section 6: Accidental Release Measures

Personal Protection See Section 8. Avoid breathing the mist/vapors.

Containment Remove all sources of ignition.
Contain with inert absorbent (such as soil, sand, vermiculite).

Cleaning Collect liquid in a sealable, solvent-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wipe up further residue with paper towel and place dirty towels in 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 Dispose of spill waste according to Section 13.

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Do not get in eye, on skin, or on clothing.

Avoid breathing fume/vapors. Use only outdoors or in well ventilated area. In cases of inadequate ventilation wear respiratory protection.

Do not eat, drink, or smoke when using this product.

RECOMMENDATION: Avoid from temperatures greater or equal to 23 °C.

Handling

Wear protective gloves/clothing/eye protection.

RECOMMENDATION: Wear neoprene, butyl rubber, nitrile or other impervious gloves with breakthrough time greater than intended use period.

Wash hands thoroughly after handling.

Storage

Keep Container tightly closed. Store in a well-ventilated area. Keep cool.

RECOMMENDATION: Keep in a dry and clean area, away from incompatible substances.

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Section 8: Exposure Controls/Personal Protection

Routes of Entry

Eyes, ingestion, inhalation, and skin

Substances with Occupational Exposure Limit Values

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
n-butyl acetate	ACGIH	150 ppm	Not established
	U.S.A. OSHA PEL	150 ppm	Not established
	Canada AB	150 ppm	200 ppm
	Canada BC	20 ppm	200 ppm
	Canada ON	150 ppm	Not established
	Canada QC	150 ppm	200 ppm
2-butanone	ACGIH	200 ppm	125 ppm
	U.S.A. OSHA PEL	200 ppm	300 ppm
	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 ACGIH², OSHA, and Canadian provinces exposure limits were consulted. Limits from by RTECS database¹ of the Canadian Centre for Occupational Health and Safety (CCOHS) a 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.

Engineering Controls

Ventilation Keep airborne concentrations below exposure limits.

Personal Protective Equipment

Eye protection Wear appropriate protective eyeglasses or chemical safety goggles.
RECOMMENDATION: Use safety glasses with lateral protection (side shields).

Skin Protection Wear appropriate protective clothing to prevent skin contact.
RECOMMENDATION: Use of protective gloves in butyl rubber, latex, neoprene, or other chemically resistant gloves.

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Respiratory Protection If exposed to mist, wear respirator such as a half-mask respirator.

RECOMMENDATION: Consult your local safety supply store to ensure your respirator has filter cartridges appropriate for the ingredients listed in section 3 of this MSDS, 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.

Section 9: Physical and Chemical Properties

Physical State	Liquid	Appearance	Clear
Odor	Fruity	Odor Threshold	0.007 ppm
pH	Not available	Specific Gravity	0.92
Solubility in Water	0.7% (wt)	Melting/Freezing Point	Not available
Boiling Point	≥80 °C [≥176 °F]	Evaporation Rate	1 (ButAc = 1)
Flash Point ^{a)}	-3 °C [26 °F]	Vapor Pressure @ 20 °C	4.3 kPa [32 mmHg]
Lower Flammability Limit	1.7%	Upper Flammability Limit	9.1%
Auto-ignition Temperature	421 °C [790 °F]	Decomposition Temperature	Not available
Viscosity @ 20 °C	0.82 mm ² /s	Vapor Density	>2.4 (Air = 1)
Partition Coefficient	Not available		

a) Tag closed cup flash.

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Section 10: Stability and Reactivity

Stabilities	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Ignition sources, excessive heat, and incompatible substances. Vapors may form explosive mixture with air.
Incompatibilities	Nitrates, strong oxidizing agents, strong reducing 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

Section 11: Toxicological Information

Routes of Entry

Eyes, ingestion, inhalation, and skin

Exposure Routes and Symptoms Summary

Eyes	Causes serious eye irritation.
Skin	Causes moderate skin irritation.
Inhalation	May cause drowsiness or dizziness. Excessive exposure may cause narcotic effects.
Ingestion	Not classifiable
Chronic	Prolonged or repeated exposure may cause skin dryness and cracking, defat skin, and local redness and discomfort.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation	TCLo inhalation
n-butyl acetate	>10,768 mg/kg Rat	>17,600 mg/kg Rabbit	390 ppm 4 h Rat	200 ppm Human
2-butanone	2,737 mg/kg Rat	6,480 mg/kg Rabbit	23,500 mg/m ³ 8h Rat	100 ppm 5 m Human

Note: Representative toxicity data from by RTECS database of the Canadian Centre for Occupational Health and Safety (CCOHS)¹ data from supplier MSDS were also consulted.

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Skin corrosion/irritation	Causes skin irritation (Moderately irritating to rabbit skin: Draize test 500 mg and 24 h)
Serious eye damage/irritation	Causes severe eye irritation (Moderate irritation to rabbits eye for 100 mg Draize test)
Sensitization (allergic reactions)	No data available
Carcinogenicity (risk of cancer)	Not classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP
Mutagenicity (risk of heritable genetic effects)	No data available
Reproductive Toxicity (risk to sex functions)	No data available
Teratogenicity (risk of fetus malformation)	Does not meet classification criteria. Fetotoxicity is observed in female rats for inhalation at extremely high doses of 1500 ppm.
STOT-single exposure	Inhalation of n-butyl acetate and 2-butanone may affect the central nervous system and may cause drowsiness, dizziness, and narcotic effects
STOT-repeated exposure	No data available
Aspiration hazard	No data available

Section 12: Ecological Information

The IMDG Code criteria and the raw-material MSDS along with supporting data for the classification of registered substances from the European Chemical Agency database (<http://echa.europa.eu>) were used.

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 2-butanone (MEK) ingredient is not classified as an environmental hazard under GHS thresholds.

Acute Ecotoxicity

Category 3

GHS Code: Hazard Statement

H402: Harmful to aquatic life

P273: Avoid release to the environment

P391: Collect spillage

Chronic Ecotoxicity

Not data available

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Biodegradability

The content is rapidly biodegradable.

Biological Oxygen Demand (BOD-5) = 730 mg/g

Chemical Oxygen Demand (COD) = 1,010 mg/g

BOD/COD ratio = 0.72

Other Effects

VOC (EPA, WHIMS, and Europe) = 70% (647 g/L)

*VOC = *Regulated Volatile Organic Content*

Section 13: Disposal Information

P501: 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 CFR 49 Regulations (Parts 100 to 185).

Sizes 5 liters and under

Limited Quantity



Sizes greater than 5 liters

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



Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 1 liter and under



Sizes greater than 1 liter up to 5 liters

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



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PREMIUM ACRYLIC CONFORMAL COATING**419D****Sea****Refer to IMDG regulations.**

Sizes 5 liters and under

Limited Quantity

Sizes greater than 5 liters

UN number: UN1263**Shipping Name:** PAINT,
Flammable Liquid**Class:** 3**Packing Group:** II**Marine Pollutant:** No

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.

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.

Health Canada

Products produced by MG Chemicals intended for retail display conform to the Canadian Consumer Labeling Regulations.

USA**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) and 2-butanone (CAS# 78-93-3), which are subject to the CERCLA reporting requirements at the 5000 lb (2268 kg) threshold.

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PREMIUM ACRYLIC CONFORMAL COATING**419D****TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, Sept 2, 2011 revision, USA).

This product does not contain any of the listed substances.

Europe**RoHS**

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

WEEE

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

PREMIUM ACRYLIC CONFORMAL COATING**419D****Section 16: Other Information**

MSDS Prepared by Michel Hachey
Date of Issue 27 September 2013
Supersedes 21 August 2013
Reason for Changes: Product name change and Section 14 update

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
GHS: Globally Harmonized System of Classification of Labeling of Chemicals
LC50 Lethal Concentration 50%
LCLo Lowest published lethal concentration
LD50 Lethal Dose 50%
N/A Not Applicable
N/E Not Estimated
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.

Email: support@mgchemicals.com

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