

835

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: Rosin Flux (835)**Other Means of Identification:** Flux Colophane**Related Part #** 835-100ML, 835-100MLCA, 835-1L, 835-4L

Recommended Use and Restriction on Use

Use: Activated rosin flux**Restriction on Use:** Not applicable

Details of Manufacturer or Importer

ManufacturerMG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADAMG Chemicals (Head Office)
9347-193 Street
Surrey, British Columbia V4N 4E7
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 Hazardous Chemical
GHS Categories

Criteria	Category	Signal Word	Pictograms
Flammable Liquid	2	Danger	Flame
Eye Irritation	2	Warning	Exclamation
Specific Target Organ Toxicity Single Exposure	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
	H225: Highly flammable liquid and vapor
	H319: Causes serious eye irritation H335: May cause respiratory irritation H336: May cause drowsiness and 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.
P241	Use explosion-proof electrical, ventilating, and lighting equipment.
P243	Take action to prevent static discharges.
P240	Ground and bond container and receiving equipment.
P261	Avoid breathing fumes or vapors.
P271	Use only outdoors or in a well-ventilated area.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves, protective clothing, and eye protection.
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. Rinse skin with plenty of water.
P304 + P340, P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
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.
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
Rosin Solder Fumes	Oxidized rosin-based solder fumes are capable of inciting occupational asthma in some pre-sensitized individuals.	Warning	Not applicable
Defats skin	Repeated exposure may cause skin dryness or cracking.	Not applicable	Not applicable

Section 3: Hazardous Ingredients

CAS #	Chemical Name	%(weight)
65997-05-9	rosin, polymerized ^{a)}	45-51%
78-92-2	butan-2-ol	25-28%
64-17-5	ethanol	23-26%

a) Based on available data, this substance is not classified as dangerous

Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
IF ON SKIN (or hair)	P303 + P361 + P353
Immediate Symptoms	<i>mild irritation, dry or itchy skin, skin cracking</i>
Response	Take off immediately all contaminated clothing. Rinse with plenty of water.
IF INHALED	P304 + P340, P342 + P311, P312
Immediate Symptoms	<i>irritation, runny or blocked nose, sore throat, drowsiness, dizziness, cough</i>
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 IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	<i>irritation, redness, watering, eye prickling, swelling</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 advice or attention.
IF SWALLOWED	P301 + P330, P331
Immediate Symptoms	<i>low toxicity: irritation, burning sensation, nausea</i>
Response	Rinse mouth. Do NOT induce vomiting.

Section 5: Fire-Fighting Measures

Extinguishing Media	In case of fire: Use dry chemical, carbon dioxide, alcohol-resistant 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) and by-products of pyrolysis of abietic resin acids.
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

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Section 6: Accidental Release Measures

Personal Protection	See personal protection recommendations in Section 8.
Precautions for Response	Avoid breathing the fumes or vapors. Remove or keep away all sources of ignition or extreme heat.
Environmental Precautions	Not applicable
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 water to remove the last traces of residue.
Disposal Methods	Dispose of spill waste according to Section 13.

Section 7: Handling and Storage

Prevention	<p>Keep out of reach of children.</p> <p>Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment. Take action to prevent static discharges.</p> <p>Avoid breathing fumes or vapors. Use only outdoors or in well-ventilated area.</p> <p>For frequent or prolonged soldering processes, use of a local exhaust system to avoid exposure to thermal decomposition products. For example, use fume cabinet, a hood on a flexible arm, or tip-mounted fume extraction system on the soldering iron.</p>
Handling	<p>Wear protective gloves, protective clothing, and eye protection.</p> <p>Wash hands thoroughly after handling.</p>
Storage	<p>Keep container tightly closed. To avoid oxidation, keep away from sunlight.</p> <p>Store in a well-ventilated area. Keep cool.</p> <p>Store locked up.</p>

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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)	Notation
rosin colophony (solder thermal decomposition) a)	ACGIH	Keep low	Not established	L, S, asthma
	U.S.A. OSHA PEL	Not established	Not established	
	Canada AB	Not established	Not established	L, S L
	Canada BC	Keep low	Not established	
	Canada ON	Keep low	Not established	
Canada QC	0.1 mg/m ³	Not established		
butan-2-ol	ACGIH	100 ppm (TWA)	Not established	URT irr, CNS
	U.S.A. OSHA PEL	150 ppm	Not established	
	Canada AB	100 ppm	Not established	
	Canada BC	100 ppm	Not established	
	Canada ON	100 ppm	150 ppm	
Canada QC	100 ppm	Not established		
ethanol	ACGIH	1 000 ppm	Not established	URT irr
	U.S.A. OSHA PEL	1 000 ppm	Not established	
	Canada AB	1 000 ppm	Not established	
	Canada BC	Not established	1 000 ppm	
	Canada ON	Not established	1 000 ppm	
Canada QC	1 000 ppm	500 ppm		

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA, and Canadian provinces exposure limits were consulted. Limits from by RTECS database² 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.

S—Sensitizer

L—Keep exposure levels as low as possible.

2A—Probably carcinogenic to humans

URT irr—Upper respiratory system irritant

CNS—Central nervous system impairment

a) This substance is a chemically modified form of rosin colophony, but we nonetheless encourage users to follow these thresholds due to unmodified rosin colophony residuals.

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Engineering Controls

Ventilation

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

RECOMMENDATION: For frequent or prolonged soldering processes, use of a local exhaust system to avoid exposure to thermal decomposition products. For example, use fume cabinet, a hood on a flexible arm, or tip-mounted fume extraction system on the soldering iron.

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

Respiratory Protection

For over-exposures up to 10 x OEL of fumes, vapors, and 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

Physical State	Liquid	Lower Flammability Limit ^{b)}	3%
Appearance	Light amber	Upper Flammability Limit ^{b)}	16%
Odor	Mild alcohol	Vapor Pressure ^{b)} @ 20 °C	4.2 kPa [32 mmHg]
Odor threshold	Not available	Vapor Density	>1.5 (Air =1)
pH	Not available	Relative Density @25 °C	0.93
Freezing/Melting Point	Not available	Solubility in Water	Partially miscible
Initial Boiling Point	≥78 °C [≥172 °F]	Partition Coefficient n-octanol/water	Not available
Flash Point ^{a)}	13 °C [55 °F]	Auto-ignition Temperature	Not available
Evaporation Rate	1.9 (ButAc = 1)	Decomposition Temperature	Not available
Flammability	Highly Flammable	Viscosity @40 °C	Not available

a) Closed cup value

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

Section 10: Stability and Reactivity

Reactivity	Polymerized rosin is oxidation resistant but may contains residual unmodified resin acids that can be auto-oxidize in contact with air and sunlight. Some slow auto-oxidation can also occur after long storage durations. The oxidation by-products may cause sensitization.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid excessive heat, sunlight, ignition sources, and incompatible substances.
Incompatibilities	Strong oxidizing agents, strong acids
Polymerization	Will not occur

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Decomposition

Will not decompose under normal conditions of storage.
 At soldering temperatures, it may generate pyrolysis products that include acetone, aliphatic aldehydes, methyl alcohol, methane, ethane, various abietic acids (the major components of rosin), CO and CO₂.

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

- Eyes** Causes redness, severe eye irritation, watering, eye prickling, and swelling.
- Skin** Causes redness, dry or itchy skin, or skin cracking.
- Inhalation** Inhalation of vapors or mist may cause upper respiratory tract irritation, cough, runny nose or blocked nose, sore throat, dizziness or drowsiness.
- Ingestion** Low toxicity: May cause an irritation, burning sensation, nausea (*also see inhalation symptoms*).
- Chronic** Repeated or prolonged inhalation exposure may cause dry skin, cracking, as well as defatting the skin.

 Repeated or prolonged inhalation exposure to solder pyrolysis by-products may cause certain sensitive individuals to develop asthma and eczema symptoms.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
rosin, polymerized	>5 000 mg/kg Rat	>2 000 mg/kg Rabbit	4.75 mg/m ³ 4 h Rat
butan-2-ol	2 193 mg/kg Rat	>2 000 mg/kg Rabbit	16 000 ppm 4 h Rat
ethanol	7 060 mg/kg Rat	>20 000 mg/kg Rabbit	124 700 mg/m ³ 6 h Rat

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

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Other Toxicological Effects

Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Causes serious eye irritation based on Draize tests on rabbits.
Sensitization (allergic reactions)	Based on available data, the classification criteria are not met.
Carcinogenicity (risk of cancer)	Except for ethanol, none of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP. Evidence of carcinogenicity of ethanol relates to excessive alcoholic beverage consumption and doesn't relate to exposure risks when used in the workplace or as a non-comestible consumer product. Ethanol [CAS# 64-17-5] IARC Group 1: Possibly carcinogenic to humans in the form of alcoholic beverages (not ethanol) ACGIH A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans CA Prop 65: Listed as a carcinogen when consumed as a beverage NTP: When in alcoholic beverage consumption, it is listed as a known carcinogen
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	Butan-2-ol can affect the central nervous system by inhalation causing drowsiness or dizziness. Inhalation also cause respiratory irritation.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	None of the ingredients are classified as an aspiration hazard.

835**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.

Rosin, ethanol, and butan-2-ol are not classifiable as toxic for the aquatic environment (with minimal LC50 of >100 mg/L).

- Butan-2-ol has a minimal LC50 96 h of 3 670 mg/L for Pimephales promelas (fathead minnow); EC50 48 h of 2 300 mg/L for Daphnia magna (water flea).
- Ethanol is biodegradable and has a minimal LC50 >1 000 mg/L for fish, invertebrates, and algae.

Acute Ecotoxicity

Available toxicity data does not meet classification thresholds.

Chronic Ecotoxicity

Available toxicity data does not meet classification thresholds.

Biodegradability

Not data available

Other Effects

VOC (Regulated Volatile Organic Content) = 50% [460 g/L]

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

Sizes 1 L and under
835-100ML, 835-100MLCA, 835-1L
Limited Quantity



Sizes greater than 1 L
835-4L

UN number: UN1987
Shipping Name: ALCOHOLS,
N.O.S. (Ethanol, Butan-2-ol)
Class: 3
Packing Group: II
Marine Pollutant: No



Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 2 × 0.5 L and under ^{a)}
835-100ML, 835-100MLCA
Limited Quantity



Sizes up to 5 L (passenger), 60 L (cargo)
835-1L, 835-4L

UN number: UN1987
Shipping Name: ALCOHOLS,
N.O.S. (Ethanol, Butan-2-ol)
Class: 3
Packing Group: II
Marine Pollutant: No



- a) **Packing Instructions:** Single packaging are not permitted. Use combination packaging with net quantity per inner packaging of 0.5 L to a total net quantity per package of 1.0 L.

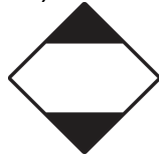
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Sea

Refer to IMDG regulations.

Sizes 1 L and under
835-100ML, 835-100MLCA, 835-1L
Limited Quantity



Sizes greater than 1 L
835-4L

UN number: UN1987
Shipping Name: ALCOHOLS,
N.O.S. (Ethanol, Butan-2-ol)
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.

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.

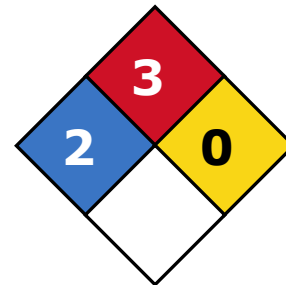
USA

Other Classifications

HMIS® RATING

HEALTH:	*	2
FLAMMABILITY:		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 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-ol (CAS# 78-92-2) 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.

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

While ethanol is present in this product, the Proposition 65 warning does NOT apply since this product is not an alcoholic beverage.

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 Issue	14 October 2020
Supersedes	02 March 2020
Reason for Changes:	Update to classification based on supplier revised composition.

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835**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®)

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

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

Phone: +1-905-331-1396

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

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

Disclaimer

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