

ROSIN FLUX

835-LIQUID

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: Rosin Flux

SDS Code: 835-Liquid

Related Part # 835-100ML, 835-1L, 835-4L

Recommended Use and Restriction on Use

Use: Activated rosin flux

Restriction on Use: Not applicable

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

E-mail support@mgchemicals.comWeb www.mgchemicals.com

☎ +1-905-331-1396

Fax +1-905-331-2682

E-mail info@mgchemicals.comE-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: Hazard(s) Identification
Classification of Hazardous Chemical
GHS Categories



Criteria		Category	Signal Word	Pictograms
Flammable Liquid		2	Danger	Flame
Sensitization	Respiratory	1	Danger	Health
Sensitization	Skin	1	Warning	Exclamation
Eye Irritation		2	Warning	Exclamation
Specific Target Organ Toxicity	Single Exposure	3	Warning	Exclamation
Skin Irritation		3 ^{a)}	Warning	<i>none</i>

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.

a) Category excluded from WHMIS 2015 and HCS 2012, but included as additional information.

Label Elements


Signal Word	DANGER
Pictograms	Hazard Statements
	H225: Highly flammable liquid and vapor
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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Pictograms	Hazard Statements
	<p>H319: Causes serious eye irritation H317: May cause allergic skin reaction H335: May cause respiratory irritation H336: May cause drowsiness and dizziness (narcotic effect by inhalation)</p>
<p>No Pictograms Mandated</p>	<p>H316: Causes mild skin irritation</p>
Prevention	Precautionary Statements
<p>P102</p>	<p>Keep out of reach of children.</p>
<p>P210</p>	<p>Keep away from heat/sparks/open flames/hot surfaces. No smoking.</p>
<p>P233</p>	<p>Keep container tightly closed.</p>
<p>P241</p>	<p>Use explosion-proof electrical/ventilating/lighting equipment.</p>
<p>P243</p>	<p>Take action to prevent static discharges.</p>
<p>P240</p>	<p>Ground and bond container and receiving equipment.</p>
<p>P261</p>	<p>Avoid breathing fumes/vapors.</p>
<p>P271</p>	<p>Use only outdoors or in a well-ventilated area.</p>
<p>P284</p>	<p>In case of inadequate ventilation, wear respiratory protection.</p>
<p>P264</p>	<p>Wash hands thoroughly after handling.</p>
<p>P272</p>	<p>Contaminated clothing should not be allowed out of the workplace.</p>
<p>P280</p>	<p>Wear protective gloves/eye protection/face protection.</p>

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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. Wash with plenty of water/shower.
P364	Take off contaminated clothing and wash it before reuse.
P333 + P313	If skin irritation or rash occurs: Get medical attention/advice.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
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/attention.
Storage	Precautionary Statements
P403 + P235	Store in well-ventilated place. Keep cool.
P405	Store locked up.
Disposal	Precautionary Statements
P501	Dispose of contents/container in accordance to local/regional/national/international regulations.

Hazards Not Otherwise Classified

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
Rosin Solder Fumes	Rosin-based solder fumes are capable of causing occupational asthma.	Danger	None

Section 3: Hazardous Ingredients

CAS #	Chemical Name	%(weight)
8050-09-7	rosin ^{a)}	45-51%
78-92-2	butan-2-ol	25-28%
64-17-5	ethanol	23-26%

a) Also called colophony, gum rosin

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Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
IF ON SKIN (or hair)	P303 + P361 + P353, P364, P333 + P313
Immediate Symptoms	<i>irritation, dry or itchy skin, skin rash (dermatitis), skin cracking</i>
Response	Take off immediately all contaminated clothing. Wash with plenty of water/shower. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention
IF INHALED	P304 + P340, P342 + P311
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. If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
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 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF SWALLOWED	P301 + P330, P331, P312
Immediate Symptoms	<i>irritation, burning sensation, nausea (also see inhalation symptoms)</i>
Response	Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell.

ROSIN FLUX**835-LIQUID****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	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).
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 fumes/vapors. Remove or keep away all sources of ignition or extreme heat.
Environmental Precautions	Avoid releasing to the environment.
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.

ROSIN FLUX**835-LIQUID****Section 7: Handling and Storage****Prevention**

Keep out of reach of children.

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take action to prevent static discharges.

Avoid breathing fumes/vapors. Use only outdoors or in well-ventilated area. In case of inadequate ventilation, wear respiratory protection.

Contaminated clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

Handling

Wear protective gloves/clothing/eye protection.

Wash hands thoroughly after handling.

Storage

Keep container tightly closed.

Store in a well-ventilated area. Keep cool.

Store locked up.

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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)	ACGIH	Keep low	Not established	L, S, asthma
	U.S.A. OSHA PEL	Not established	Not established	
	Canada AB	Not established	Not established	
	Canada BC	Keep low	Not established	
	Canada ON	Keep low	Not established	
Canada QC	0.1 mg/m ³	Not established	L	
butan-2-ol	ACGIH	100 (TWA)	Not established	URT irr, CNS
	U.S.A. OSHA PEL	150	Not established	
	Canada AB	100	Not established	
	Canada BC	100	Not established	
	Canada ON	100	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.

(L) Exposure by all routes should be carefully controlled to levels as low as possible.

(S) Sensitizer

(URT irr) Upper respiratory system irritant

(CNS impair) Central nervous system impairment

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ROSIN FLUX**835-LIQUID****Engineering Controls****Ventilation**

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

RECOMMENDATION: For frequent or prolonged soldering processes, we recommend the use of a local exhaust system. For example, use a hood on a flexible arm, fume cabinet, or tip-mounted fume extraction system on the soldering iron.

Personal Protective Equipment**Eye protection**

Wear appropriate protective eyeglasses or chemical safety goggles.

RECOMMENDATION: Use safety glasses with lateral protection (side shields).

Skin Protection

For likely contacts, use of protective butyl rubber 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 and particulate filter.

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)}	19%
Odor	Mild alcohol	Vapor Pressure ^{b)} @ 20 °C	5.3 kPa [40 mmHg]
Odor threshold	Not available	Vapor Density	>1.9 (Air =1)
pH	Not available	Specific Gravity @25 °C	0.93
Freezing/Melting Point	Not available	Solubility in Water	Partially miscible
Boiling Point	≥78 °C [≥172 °F]	Partition Coefficient	Not available
Flash Point ^{a)}	12 °C [54 °F]	Auto-ignition Temperature	Not available
Evaporation Rate	1.9 (ButAc = 1)	Decomposition Temperature	Not available
Flammability (solid, gas)	Not applicable	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	Rosin can be oxidized in contact with air and heat. Skin sensitization may occur following oxidation of the chemicals after prolonged storage.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Ignition sources, excessive heat, and incompatible substances.
Incompatibilities	Strong oxidizing agents, strong acids
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
Routes of Entry

Inhalation, Ingestion, Eye contact, Skin contact

Symptoms Summary

Eyes	Causes redness, severe eye irritation, watering, eye prickling, swelling
Skin	Causes redness, dry or itchy skin, skin rash (dermatitis), 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	May cause an irritation, burning sensation, nausea (<i>also see inhalation symptoms</i>).
Chronic	Repeated or prolonged inhalation exposure may cause dry skin, cracking, as well as defatting the skin. Repeated or prolonged skin contact may cause allergic skin reaction.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
rosin	7 600 mg/kg Rat	Not established	20 000 ppm 10 h Rat
butan-2-ol	2 193 mg/kg Rat	>2 000 mg/kg Rabbit	8 000 ppm 4h Rat
ethanol	7 060 mg/kg Rat	48 500 mg/kg Rabbit	>2 g/kg Rat

Note: Toxicity data from by RTECS² and ECHA databases were consulted. The data from supplier (M)SDS were also consulted.

Other Toxicological Effects

Skin corrosion/irritation	Causes mild skin irritation based on Draize tests on rabbits.
Serious eye damage/irritation	Causes moderate to severe eye irritation based on Draize tests on rabbits

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ROSIN FLUX**835-LIQUID****Sensitization**
(allergic reactions)

Pure rosin is not a skin sensitizer according to reliable animal studies; however, its oxidation products are known to cause skin sensitization. Solder thermal degradation fume inhalation is a recognized causes of occupational asthma.

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 A4: Not classified as a human carcinogen

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 a aspiration hazard.

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 mixture is not classifiable as an environmental toxicants.

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ROSIN FLUX**835-LIQUID****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% [456 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 1 L and under

Limited Quantity



Sizes greater than 1 L

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

Flash Point = 12 °C [54 °F]

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Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 1 L and under

Limited Quantity



Sizes up to 5 L (passenger), 60 L (cargo)

UN number: UN1987

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

Class: 3

Packing Group: II

Marine Pollutant: No

Flash Point = 12 °C [54 °F]



Sea

Refer to IMDG regulations.

Sizes 1 L and under

Limited Quantity



Sizes greater than 1 L

UN number: UN1987

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

Class: 3

Packing Group: II

Marine Pollutant: No

Flash Point = 12 °C [54 °F]



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.

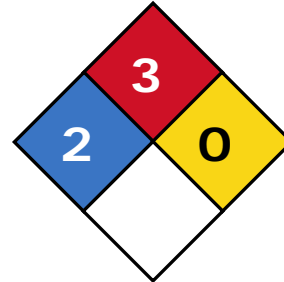
Industry and Science Canada

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.

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ROSIN FLUX**835-LIQUID****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 up to 28% 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, June 06, 2014 revision, USA).

This product contains ethanol, which is listed as reproductively toxic. It is also listed as a carcinogen when in an alcoholic beverage.

Europe**RoHS (Restriction of Hazardous Substances Directive)**

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, or PBDE's, 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.

ROSIN FLUX**835-LIQUID****Section 16: Other Information****SDS Prepared by** Michel Hachey**Date of Issue** 23 August 2016**Supersedes** 14 April 2016**Reason for Changes:** Updates to hazard not otherwise specified statement.**Reference**

1) 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).

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

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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

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

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

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