

ROSIN FLUX

835-PEN

# Safety Data Sheet

## Section 1: Product and Company Identification

### Product Identifier and Other Means of Identification

Product Name: Rosin Flux Pen

SDS Code: 835-Pen

Related Part # 835-P

### 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.com](mailto:support@mgchemicals.com)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 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

**ROSIN FLUX**
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**Section 2: Hazards 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 <sup>a)</sup>	Warning	none

*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 HCS2012, but included as additional information.

**Label Elements**

<b>Signal Word</b>	<b>DANGER</b>
<b>Pictograms</b>	<b>Hazard Statements</b>
	H225: Highly flammable liquid and vapour
	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled

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Pictograms	Hazard Statements
	H319: Causes serious eye irritation H317: May causes allergic skin reaction H335: May cause respiratory irritation H336: May cause drowsiness and dizziness (narcotic effect by inhalation)
No Pictograms Mandated	H316: Causes mild skin irritation
Prevention	Precautionary Statements
P102 P210 P243 P261 + P271 P284 P264 P280	Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Take precautionary measures against static discharge. Avoid breathing fumes/vapors. Use only outdoors or in well-ventilated area. In case of inadequate ventilation, wear respiratory protection. Wash hands thoroughly after handling Wear protective gloves/eye protection/protective clothing.
Response	Precautionary Statements
P370 + P378 P305 + P351 + P338 P337 + P313 P304 + P340 P342 + P311 P303 + P361 + P353, P363 P333 + P313	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER/doctor. IF ON SKIN (or hair): Take off immediately all contaminated. Wash with plenty of water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical attention/advice.
Storage	Precautionary Statements
P403 + P235 P405	Store in well-ventilated place. Keep cool. Store locked up.

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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
Defats skin	Repeated exposure may cause skin dryness or cracking.	<i>None</i>	<i>None</i>
Rosin Solder Fumes	Rosin-based solder fumes are capable of causing occupational asthma.	Danger	<i>None</i>

**Section 3: Hazardous Ingredients**

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

a) Also called colophony, gum rosin

**Section 4: First Aid Measures**

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
<b>IF ON SKIN (or hair)</b>	P303 + P361 + P353, P363, P333 + P313
<b>Immediate Symptoms</b>	<i>irritation, dry or itchy skin, skin rash (dermatitis), skin cracking</i>
<b>Response</b>	Take off immediately all contaminated clothing. Wash with plenty of water/shower. Wash contaminated clothing before reuse.  If skin irritation or rash occurs: Get medical advice/attention.

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<b>IF INHALED</b>	P304 + P340, P342 + P311
<b>Immediate Symptoms</b>	<i>serious irritation, runny or blocked nose, sore throat, drowsiness, dizziness, cough</i>
<b>Response</b>	Remove person to fresh air and keep comfortable for breathing.  If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
<b>IF IN EYES</b>	P305 + P351 + P338, P337 + P313
<b>Immediate Symptoms</b>	<i>irritation, redness, watering, eye prickling, swelling</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/attention.
<b>IF SWALLOWED</b>	P301 + P330, P331, P312
<b>Immediate Symptoms</b>	<i>irritation, burning sensation, nausea (also see inhalation symptoms)</i>
<b>Response</b>	Rinse mouth. Do NOT induce vomiting.  If feeling unwell: Call a POISON CENTRE/doctor.

**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 containers.
<b>Specific Hazards</b>	Vapors 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.
<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.

**ROSIN FLUX****835-PEN****Section 6: Accidental Release Measures**

<b>Personal Protection</b>	See personal protection recommendations in Section 8.
<b>Precautions for Response</b>	Avoid breathing the fumes/vapors. Remove or keep away all sources of ignition or extreme heat.
<b>Environmental Precautions</b>	Avoid releasing to the environment.
<b>Containment Methods</b>	Not applicable
<b>Cleaning Methods</b>	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.
<b>Disposal Methods</b>	Dispose of spill waste according to Section 13.

**Section 7: Handling and Storage**

<b>Prevention</b>	Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Take precautionary measures against static discharge. Avoid breathing fumes/vapors. Use only outdoors or in well-ventilated area. Do not eat, drink, or smoke when using this product. Contaminated clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.
<b>Handling</b>	Wear protective gloves/clothing/eye protection. Wash hands thoroughly after handling.
<b>Storage</b>	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	L, S L
	Canada BC	Keep low	Not established	
	Canada ON	Keep low	Not established	
Canada QC	0.1 mg/m <sup>3</sup>	Not established		
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	
	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 ACGIH<sup>1</sup>, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database<sup>2</sup> 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

**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.

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**ROSIN FLUX****835-PEN****Personal Protective Equipment**

<b>Eye protection</b>	<p>Wear appropriate protective eyeglasses or chemical safety goggles.</p> <p><b>RECOMMENDATION:</b> Ensure that glasses have side shields for lateral protection.</p>
<b>Skin Protection</b>	<p>For likely contacts, use of protective nitrile gloves or other chemically resistant gloves.</p>
<b>Respiratory Protection</b>	<p>For over-exposures up to 10 x OEL of fumes/vapors, wear respirator such as a half-mask respirator with organic vapor cartridges.</p> <p>Above 10 x OEL, use a positive-pressure, air-supplied respirator or a self-contained breathing apparatus.</p> <p><b>RECOMMENDATION:</b> 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.</p>

**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> <sup>b)</sup>	3%
<b>Appearance</b>	Light amber	<b>Upper Flammability Limit</b> <sup>b)</sup>	19%
<b>Odor</b>	Mild alcohol	<b>Vapor Pressure</b> <sup>b)</sup> @ 20 °C	5.3 kPa [40 mmHg]
<b>Odor threshold</b>	Not available	<b>Vapor Density</b>	>1.9 (Air =1)
<b>pH</b>	Not available	<b>Specific Gravity</b> @25 °C	0.93
<b>Freezing/Melting Point</b>	Not available	<b>Solubility in Water</b>	Partially miscible
<b>Boiling Point</b>	≥78 °C [≥172 °F]	<b>Partition Coefficient</b>	Not available
<b>Flash Point</b> <sup>a)</sup>	12 °C [54 °F]	<b>Auto-ignition Temperature</b>	Not available
<b>Evaporation Rate</b>	1.9 (ButAc = 1)	<b>Decomposition Temperature</b>	Not available
<b>Flammability (solid, gas)</b>	Not applicable	<b>Viscosity</b> @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**

<b>Reactivity</b>	Rosin can be oxidized in contact with air and heat. Skin sensitization may occur following oxidation of the chemicals after prolonged storage.
<b>Chemical Stability</b>	Chemically stable at normal temperatures and pressures
<b>Conditions to Avoid</b>	Ignition sources, excessive heat, and incompatible substances
<b>Incompatibilities</b>	Strong oxidizing 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.

**ROSIN FLUX**
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**Section 11: Toxicological Information**
**Routes of Entry**

Inhalation, Ingestion, Eye contact, Skin contact

**Symptoms Summary**

<b>Eyes</b>	Causes redness, serious eye irritation, watering, eye prickling and/or swelling.
<b>Skin</b>	Causes irritation, dry or itchy skin, skin rash (dermatitis), or skin cracking.
<b>Inhalation</b>	Inhalation of vapors or mist may cause upper respiratory tract irritation, cough, runny nose or blocked nose, sore throat, dizziness or drowsiness.
<b>Ingestion</b>	May cause an irritation, burning sensation and/or nausea ( <i>also see inhalation symptoms</i> ).
<b>Chronic</b>	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 RTECS<sup>2</sup> and ECHA databases were consulted. The data from supplier (M)SDS were also consulted.

**Other Toxicological Effects**

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

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**ROSIN FLUX****835-PEN****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**

The liquid content is not an 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.

**Acute Ecotoxicity**

Available toxicity data does not meet classification thresholds.

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**Chronic Ecotoxicity**

Available toxicity data does not meet classification thresholds.

**Biodegradability**

No 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



**Air**

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 30 mL and under

Excepted Quantity  
Document as class E2



FOR REFERENCE ONLY

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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**ROSIN FLUX**

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**Sea**

Refer to IMDG regulations.

Sizes 30 mL and under

**Excepted Quantity**  
Document as class E2



FOR REFERENCE ONLY

**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.

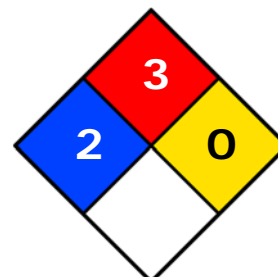
**USA**

**Other Classifications**

**HMIS® RATING**

<b>HEALTH:</b>	<b>*</b>	<b>2</b>
<b>FLAMMABILITY:</b>		<b>3</b>
<b>PHYSICAL HAZARD:</b>		<b>0</b>
<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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**ROSIN FLUX****835-PEN****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, Sept 2, 2011 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.

**Section 16: Other Information**

**SDS Prepared by** Michel Hachey

**Date of Review** 31 August 2016

**Supersedes** 23 December 2015

**Reason for Changes:** Updates to the classification according to HCS 2012 and WHMIS 2015

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**ROSIN FLUX****835-PEN****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

**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).

Email: [support@mgchemicals.com](mailto: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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