Safety Data Sheet

according to WHMIS 2023 and HCS 2024

Date of issue 03/13/2025 Version number 8.02 Revision: 03/13/2025

* 1 Identification

· **Product identifier**

· **Trade name: 835**

· **Other Means of Identification:** Rosin Flux

· **Related Part Number:** 835-Liquid, 835-100ML, 835-100MLCA, 835-1L, 835-4L, 835-20L

· **Application of the substance / the mixture** Flux

· **Uses advised against** Not available

· **Details of the supplier of the safety data sheet**

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Manufacturer/Supplier:
MG Chemicals (Head Office)
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA
+(1) 800-340-0772
+(1) 905-331-1396
info@mgchemicals.com

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Distributor:
Mouser Electronics
1000 North Main Street
Mansfield, TX 76063
USA
+(1) 817-804-3800

· **Information department:** sds@mgchemicals.com

· **Emergency telephone 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

2 Hazard identification

· **Classification of the substance or mixture**

Flammable liquids – Category 2	H225	Highly flammable liquid and vapour.
Skin Irritation - Category 2	H315	Causes skin irritation.
Eye damage/irritation – Category 2A	H319	Causes serious eye irritation.
Specific target organ toxicity (single exposure) – Category 3	H335-H336	May cause respiratory irritation. May cause drowsiness or dizziness.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

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· **Hazard pictograms**

GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Rosin, polymerized
butanol
ethanol

· **Hazard statements**

H225	Highly flammable liquid and vapour.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335-H336	May cause respiratory irritation. May cause drowsiness or dizziness.

· **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.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof lighting equipment.
P243	Take action to prevent static discharges.
P261	Avoid breathing fumes and vapors.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves, protective clothing, and eye protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice.
P370+P378	In case of fire: Use CO2, powder or water spray to extinguish.
P403+P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents and container in accordance with local, regional, and national regulations.

· **Other hazards**
Warning! Oxidized rosin-based solder fumes are capable of inciting occupational asthma in some pre-sensitized individuals.
Repeated exposure may cause skin dryness or cracking.

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3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
65997-05-9	Rosin, polymerized	45-51% w/w *
78-92-2	butanol	25-28% w/w *
64-17-5	ethanol	23-26% w/w *

* Actual concentration ranges are withheld as a trade secret.

4 First-aid measures

· **Description of first aid measures**
· **After inhalation:**
Remove person to fresh air and keep comfortable for breathing.
If feeling unwell: Call a POISON CENTRE or doctor.
· **After skin contact:**
Take off immediately all contaminated clothing.
Wash with plenty of soap and water.
· **After eye contact:**
Rinse cautiously with water for 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice or attention.
· **After swallowing:**
Rinse mouth.
Do NOT induce vomiting.
If symptoms persist consult doctor.

· **Most important symptoms and effects, both acute and delayed**
See section 11 for additional information.

· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· **Special hazards arising from the substance or mixture**
Vapors are heavier than air. Vapors may travel to sources of ignition near the ground. They can cause flash fire or ignite explosively.
Prevent fire-fighting wash from entering waterway or sewer system.
· **Hazardous combustion products:**
Carbon Oxides (COx)

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by-products of pyrolysis of abietic resin acids

· **Advice for firefighters**
· **Protective equipment:** Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Avoid breathing the fumes or vapors.
Remove or keep away all sources of extreme heat or open flames.

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.

· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Collect liquid in a sealable, chemical-resistant container.
Wash residue with a paper towel and place dirty towels in container.
Use soap and water to remove the last traces of residue.

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Precautions for safe handling**
Wear protective gloves and eye protection.
Wash hands and exposed skin thoroughly after handling.
Take off contaminated clothing and wash it before reuse.
Avoid breathing mist, spray, or vapors.
Use only outdoors or in a well-ventilated area.
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.

· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Use explosion-proof apparatus / fittings and spark-proof tools.
Ground and bond container and receiving equipment.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Keep in a dry and clean area, away from incompatible substances

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· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Store locked up.

· **Specific end use(s)** See section 1.2

8 Exposure controls/ Personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
78-92-2 butanol	
EL (Canada)	TWA: 100 ppm
EV (Canada)	STEL: 150 ppm TWA: 100 ppm
PEL (USA)	TWA: 450 mg/m³, 150 ppm
REL (USA)	STEL: 455 mg/m³, 150 ppm TWA: 305 mg/m³, 100 ppm
TLV (USA)	TWA: 303 mg/m³, 100 ppm
64-17-5 ethanol	
EL (Canada)	STEL: 1000 ppm
EV (Canada)	TWA: 1,900 mg/m³, 1,000 ppm
PEL (USA)	TWA: 1900 mg/m³, 1000 ppm
REL (USA)	TWA: 1900 mg/m³, 1000 ppm
TLV (USA)	STEL: 1880 mg/m³, 1000 ppm A3

· **Additional information:**
The lists that were valid during the creation were used as basis.
Refer to the national or regional occupational exposure limit regulation for abbreviations and acronyms.

· **Exposure controls**
· **Appropriate engineering controls** Keep airborne concentrations below exposure limits.
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
Advice should be sought from respiratory protection specialists.
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
If the product is heated or worker has a known allergic reaction, consider using a full mask with organic vapor cartridge or with an independent air supply.

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· **Protection of hands:**
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.


Protective gloves: EN374

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**


Safety glasses or tightly sealed goggles: EN 166

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Physical state**	Liquid
· **Form:**	Viscous
· **Color:**	Amber colored
· **Odor:**	Alcohol-like
· **Odor threshold:**	Not determined.
· **Melting point/Melting range:**	Undetermined.
· **Boiling point/Boiling range:**	≥78 °C (≥172.4 °F)
· **Flammability:**	Highly flammable.
· **Explosion limits:**	
· **Lower:**	3 Vol %
· **Upper:**	16 Vol %
· **Flash point:**	13 °C (55.4 °F)
· **Auto igniting:**	390 °C (734 °F)
· **Decomposition temperature:**	Not determined.
· **Viscosity:**	
· **Kinematic:**	Not determined.
· **Dynamic:**	Not determined.

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· **Solubility in / Miscibility with**	
· **Water:**	Partly miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Vapor pressure at 20 °C (68 °F):**	42 hPa (31.5 mm Hg)
· **Vapor pressure at 50 °C (122 °F):**	280 hPa (210 mm Hg)
· **Relative density at 25 °C (77 °F):**	0.93
· **Vapor density (air=1):**	>1.5
· **Particle characteristics**	Not applicable.

· **Other information**

· **Important information on protection of health and environment, and on safety.**	
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· **Solvent content:**	
· **Organic solvents:**	48–54 %
· **Solids content:**	0.0 %
· **Evaporation rate**	1.9 (ButAc=1)

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.

· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.

· **Possibility of hazardous reactions** No dangerous reactions known.

· **Conditions to avoid** Avoid open flames, excessive heat, sparks, ignition sources, and incompatible substances.

· **Incompatible materials:**
Strong oxidizing agents
Strong acids

· **Hazardous decomposition products:**
Hazardous combustion products: see section 5.
Thermal degradation produces oxidized rosin by-products that are known skin and respiratory sensitizers.
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.

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11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· LD/LC50 values that are relevant for classification:		
78-92-2 butanol		
Oral	LD50	6,480 mg/kg (rat)
64-17-5 ethanol		
Oral	LD50	7,060 mg/kg (rat)
Inhalative	LC50/4 h	20,000 mg/L (rat)

· **Primary irritant effect:**

· **on the eye:** Irritating effect.

· **Summary of effects and symptoms by route of exposure**

· **Eyes:**
watering
eye prickling
swelling
redness, serious irritation

· **Skin:**
redness
dry skin

· **Inhalation:**
irritation of the respiratory tract
cough
dizziness or drowsiness
sore throat

· **Swallowed:**
irritation to the mouth, throat, esophagus, and stomach
see inhalation symptoms

· **Delayed and immediate effects as well as chronic effects from short and long-term exposure**
Prolonged or repeated exposure may defat skin and cause skin dryness and cracking, and local redness and discomfort.
Repeated or prolonged inhalation exposure to solder pyrolysis by-products may cause certain sensitive individuals to develop asthma and eczema symptoms.

· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)		
64-17-5	ethanol	1

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· NTP (National Toxicology Program)
None of the ingredients is listed.

12 Ecological information

· **Toxicity**

· Aquatic toxicity:	
78-92-2 butanol	
EC50/ 48 h	2,300 mg/L (daphnia)
LC50 96h	3,670 mg/L (minnow)
64-17-5 ethanol	
LC50	>1,000 mg/L (fish) Biodegradable

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:** This material and its container must be disposed of as hazardous waste.

· **Uncleaned packagings:**
· **Recommendation:**
Containers may still present a chemical hazard/ danger when empty.
Dispose of contents in accordance with all local, regional, national, and international regulations.
Where possible retain label warnings and SDS and observe all notices pertaining to the product.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**
· **DOT/TDG, IMDG, IATA** UN1987

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· **UN proper shipping name**
· **DOT/TDG, IATA** Alcohols, n.o.s. (ethanol, butanol)
· **IMDG** ALCOHOLS, N.O.S. (ethanol, butanol)

· **Transport hazard class(es)**

· **DOT/TDG (Transport dangerous goods):**

· **Class** 3 Flammable liquids
· **Label** 3

· **IMDG, IATA**

· **Class** 3 Flammable liquids
· **Label** 3

· **Packing group**
· **DOT/TDG, IMDG, IATA** II

· **Environmental hazards:** Not applicable.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

Limited Quantity

835-100ML, 835-100MLCA, 835-1L

· **DOT/TDG**
· **Quantity limitations** On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L

· **IMDG**
· **Limited quantities (LQ)** 1L
· **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml

· **Special precautions for user** Not applicable.

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· **Hazard identification number (Kemler code):**	33
· **EMS Number:**	F-E,S-D
· **Stowage Category**	B
· **UN "Model Regulation":**	UN 1987 ALCOHOLS, N.O.S. (ETHANOL, BUTANOL), 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **OSHA Hazard Communication Standard (29 CFR Part 1900)**
The safety data sheet and label comply with HCS 2024.

· **Hazardous Products Act (R.S.C., 1985, c. H-3)**
The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2023.

· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

78-92-2	butanol

· **TSCA (Toxic Substances Control Act):**
All components have the value ACTIVE.

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

64-17-5	ethanol

· **Carcinogenic categories**

· **TLV (Threshold Limit Value)**

64-17-5	ethanol	A3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

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· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**
All ingredients are listed.

· **Canadian Non-Domestic Substances List (NDSL)**
None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**	
64-17-5	ethanol

· **Canadian Ingredient Disclosure list (limit 1%)**	
78-92-2	butanol

· **HMIS-ratings (scale 0 - 4)**
Health = * 2
Fire = 3
Reactivity = 0

· **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.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Regulatory department
· **Contact:** sds@mgchemicals.com
· **Version number of previous version:** 8.01
· **Date of preparation** 03/13/2025
· **Abbreviations and acronyms:**
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
· *** Data compared to the previous version altered.**