

LIQUID FLUX: LEAD FREE, WATER SOLUBLE

837LFWS-LIQUID

# Safety Data Sheet

## Section 1: Product and Company Identification

### Product Identifier and Other Means of Identification

**Product Name:** Liquid Flux: Lead Free, Water Soluble**SDS Code:** 837LFWS-Liquid**Related Part #** 837LFWS-1L, 837LFWS-4L

### Recommended Use and Restriction on Use

**Use:** Water soluble flux**Uses Advised Against:** Not applicable

### Details of Manufacturer or Importer

**Manufacturer**MG 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](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

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**Section 2: Hazards Identification**



**Classification of Hazardous Chemical**

**GHS Categories**

Criteria	Category	Signal Word	Pictograms
Flammable Liquid	2	Danger	Flame
Eye irritation Specific Target Organ Toxicity Single Exposure	2A 3	Warning Warning	Exclamation Exclamation

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

**Label Elements**

<b>Signal Word</b>	<b>DANGER</b>
<b>Pictograms</b>	<b>Hazard Statements</b>
	H225: Highly flammable liquid and vapor
	H319: Causes serious eye irritation H336: May cause drowsiness and dizziness

*Section continued on the next page*

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<b>Prevention</b>	<b>Precautionary Statements</b>
P102	Keep out of reach of children.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing vapors/mist.
P271	Use only outdoors or in well-ventilated area.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/eye protection.
<b>Response</b>	<b>Precautionary Statements</b>
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
P303 + P361+ P352	IF ON SKIN (or hair): Take off immediately all contaminated. Rinse skin with water (or shower).
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.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell.
<b>Storage</b>	<b>Precautionary Statements</b>
P403 + P235	Store in well ventilated place. Keep cool.
P405	Store locked up.
<b>Disposal</b>	<b>Precautionary Statements</b>
P501	Dispose of contents/container in accordance to local/regional/international regulations.

**Other Hazards**

<b>Other Criteria</b>	<b>Hazard Statements/Precautionary Statement</b>	<b>Signal Word</b>	<b>Pictograms</b>
Defats skin	Repeated exposure may cause skin dryness or cracking.	None	None

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**Section 3: Hazardous Ingredients**

CAS #	Chemical Name	%(weight)
67-63-0	propan-2-ol <sup>a)</sup>	75%
56-81-5	glycerol	2%

a) Commonly known as isopropyl alcohol (IPA)

**Section 4: First-Aid Measures**

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
<b>IF ON SKIN (or hair)</b>	P303 + P361 + P352
<b>Immediate Symptoms</b>	<i>redness, dry skin, mild irritation</i>
<b>Response</b>	Take off immediately all contaminated clothing. Rinse skin with water (or shower).
<b>IF IN EYES</b>	P305 + P351 + P338, P337 + P313
<b>Immediate Symptoms</b>	<i>irritation, tearing, redness, pain</i>
<b>Response</b>	Rinse cautiously with water for 15 minutes or more. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>IF INHALED</b>	P304 + P340, P312
<b>Immediate Symptoms</b>	<i>cough, dizziness, drowsiness, headaches, weakness</i>
<b>Response</b>	Remove person to fresh air and keep comfortable for breathing. If feeling unwell: Call a POISON CENTRE/doctor.
<b>IF SWALLOWED</b>	P301 + P330 + P331
<b>Immediate Symptoms</b>	<i>nausea, headaches, dizziness, weakness, unconsciousness</i>
<b>Response</b>	Rinse mouth. Do NOT induce vomiting.

**LIQUID FLUX: LEAD FREE, WATER SOLUBLE****837LFWS-LIQUID****Section 5: Fire-Fighting Measures**

<b>Response</b>	In case of fire: Use dry chemical, carbon dioxide, water fog, or chemical foam 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>	Combustion produces carbon oxides (CO, CO <sub>2</sub> ).
<b>Fire-Fighter</b>	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

**Section 6: Accidental Release Measures**

<b>Personal Protection</b>	See personal protection equipment in Section 8.
<b>Precautions for Response</b>	Remove or keep away all sources of ignition or extreme heat. Avoid breathing vapors. Prevent spill from entering drains.
<b>Environmental Precautions</b>	Not applicable
<b>Containment Methods</b>	Contain with inert and non-flammable absorbent (such as soil, sand, vermiculite).
<b>Cleaning Methods</b>	Collect liquid in a sealable, solvent-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Use 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. For metal containers, ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take precautionary measures against static discharge. Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Keep container tightly closed.
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**Handling**           Wear protective gloves/eye protection.

Wash hands thoroughly after handling.

**Storage**            Store in a well-ventilated area. Keep cool.

Store locked up.

**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)
propan-2-ol	ACGIH	200 ppm (TWA)	400 ppm
	U.S.A. OSHA PEL	400 ppm	Not established
	Canada AB	200 ppm	400 ppm
	Canada BC	200 ppm	400 ppm
	Canada ON	200 ppm	400 ppm
	Canada QC	400 ppm	500 ppm
glycerol (mist) <i>respirable fraction</i>	ACGIH	<i>Withdrawn 2013</i>	Not established
	U.S.A. OSHA PEL	5 mg/m <sup>3</sup>	Not established
	Canada AB	10 mg/m <sup>3</sup>	Not established
	Canada BC	10 mg/m <sup>3</sup>	Not established
	Canada ON	10 mg/m <sup>3</sup>	Not established
	Canada QC	10 mg/m <sup>3</sup>	Not established

*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 by RTECS database<sup>2</sup> and from suppliers' SDS were also consulted. Short term exposure limits (STEL) are usually for 15 min and long term permissible exposure limits (PEL) for 8 h.

**Engineering Controls**

**Ventilation**           Keep airborne concentrations below exposure limits.

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**LIQUID FLUX: LEAD FREE, WATER SOLUBLE****837LFWS-LIQUID****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, nitrile, neoprene, polyethylene gloves or other chemically resistant gloves.

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

Do NOT use latex rubber, polyvinyl alcohol (PVA) or PVC 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.

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**

<b>Physical State</b>	Liquid	<b>Lower Flammability Limit</b>	2%
<b>Appearance</b>	Light amber	<b>Upper Flammability Limit</b>	12%
<b>Odor</b>	Alcohol like, ethereal	<b>Vapor Pressure @20 °C</b>	4.2 kPa [32 mmHg]
<b>Odor Threshold</b>	Not available	<b>Vapor Density</b>	>1 (Air =1)
<b>pH</b>	6.8-7.8	<b>Specific Gravity @25 °C</b>	0.85
<b>Freezing/Melting Point</b>	Not available	<b>Solubility in Water</b>	Partially soluble
<b>Boiling Point</b>	≥81.8 °C [≥179 °F]	<b>Partition Coefficient</b>	Not available
<b>Flash Point <sup>a)</sup></b>	12 °C [54 °F]	<b>Auto-ignition Temperature</b>	456 °C [853 °F]
<b>Evaporation Rate</b>	<1.5 (ButAc = 1)	<b>Decomposition Temperature</b>	Not available
<b>Flammability (solid, gas)</b>	Not available	<b>Viscosity @40 °C</b>	<14 mm <sup>2</sup> /s

a) Tag closed cup value



**LIQUID FLUX: LEAD FREE, WATER SOLUBLE****837LFWS-LIQUID****Section 10: Stability and Reactivity**

<b>Reactivity</b>	At elevated temperatures, may react with aluminum and generate hydrogen gas.
<b>Chemical Stability</b>	Chemically stable at normal temperatures and pressures
<b>Conditions to Avoid</b>	Avoid Ignition sources, excessive heat, and incompatible substances.
<b>Incompatibilities</b>	Strong oxidizing agents, strong acids, strong bases, halogenated compounds, aluminum at temperatures $\geq 49$ °C [ $>120$ °F]
<b>Polymerization</b>	Will not occur
<b>Decomposition</b>	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

**Section 11: Toxicological Information****Routes of Exposure**

Eye contact, Inhalation, Skin contact, and Ingestion

**Symptoms Summary**

<b>Eyes</b>	Causes serious eye irritation, tearing, redness, or pain.
<b>Skin</b>	Causes dry skin, redness, or mild irritation.
<b>Inhalation</b>	May cause drowsiness or dizziness. Excessive exposure may cause narcotic effects, weakness, headaches, and unconsciousness.
<b>Ingestion</b>	See inhalation symptoms.
<b>Chronic</b>	Prolonged or repeated exposure may defat skin and cause skin dryness and cracking, and local redness and discomfort.

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**Acute Toxicity (Lethal Exposure Concentrations)**

<b>Chemical Name</b>	<b>LD50 oral</b>	<b>LD50 dermal</b>	<b>LC50 inhalation</b>
propan-2-ol	3 600 mg/kg Rat	12 800 mg/kg Rabbit	16 000 ppm 8 h Rat
glycerol	12 600 mg/kg Rat	10 000 mg/kg Rabbit	Not available

*Note:* Toxicity data from the 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>	Based on available data, the classification criteria are not met. Propan-2-ol causes mild skin irritation based on Draize tests on rabbits.
<b>Serious eye damage/irritation</b>	Causes severe eye irritation: propan-2-ol is a severe irritant based on Draize tests on rabbits.
<b>Sensitization</b> (allergic reactions)	Based on available data, the classification criteria are not met.
<b>Carcinogenicity</b> (risk of cancer)	None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.
<b>Mutagenicity</b> (risk of heritable genetic effects)	Based on available data, the classification criteria are not met.
<b>Reproductive Toxicity</b> (risk to sex functions)	Based on available data, the classification criteria are not met.
<b>Teratogenicity</b> (risk of fetus malformation)	Based on available data, the classification criteria are not met.
<b>STOT-single exposure</b>	Propan-2-ol can affect the central nervous system by inhalation causing drowsiness or dizziness.
<b>STOT-repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Not classified as Cat 1 aspiration hazards, so no labeling mandated. The mixture meets the criteria for a Cat 2 aspiration hazard, which may be harmful if swallowed and enters airways.

**LIQUID FLUX: LEAD FREE, WATER SOLUBLE****837LFWS-LIQUID****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.

Based on available data, the mixture does not meet the environmental toxicant classification criteria.

- Propan-2-ol has a minimal LC50 96 h of 9 640 mg/L for Pimephales promelas (fathead minnow); an EC50 24 h of 5 102 mg/L Daphnia magna (water flea); and an EC50 72 h of 2 000 mg/L Desmodismus subspicatus (green algae).

**Acute Ecotoxicity**

Available toxicity data for the mixture do not meet classification thresholds.

**Chronic Ecotoxicity**

Available toxicity data for the mixture do not meet classification thresholds.

**Biodegradability**

Not available

**Other Effects**

Not available

**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

Limited Quantity



Sizes greater than 1 L

**UN number:** UN1219  
**Shipping Name:** ISOPROPANOL  
**Class:** 3  
**Packing Group:** II  
**Marine Pollutant:** No  
 Flash Point = 12 °C [54 °F]



**Air**

**Refer to ICAO-IATA Dangerous Goods Regulations.**

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

**UN number:** UN1219  
**Shipping Name:** ISOPROPANOL  
**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:** UN1219  
**Shipping Name:** ISOPROPANOL  
**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**

**WHMIS 1988 Classification**



B2 – Flammable Liquid; D2B – Toxic Material (Eye Irritant)

**Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)**

All hazardous ingredients are listed on the DSL.

**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.

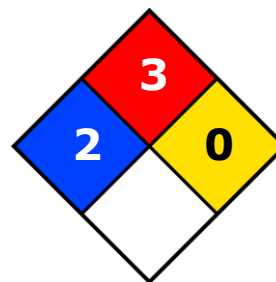
**USA**

**Other Classifications**

**HMIS® RATING**

<b>HEALTH:</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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**LIQUID FLUX: LEAD FREE, WATER SOLUBLE****837LFWS-LIQUID****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 75% propan-2-ol (CAS # 67-63-0) 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 does not contain any of the listed substances.

**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 Revision** 21 January 2016

**Supersedes** Not applicable

**Reason for Changes:** New product classified according to HCS 2012 and WHMIS 2015.

**Reference**

1) ACGIH 2013 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 (2013).

2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

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**LIQUID FLUX: LEAD FREE, WATER SOLUBLE****837LFWS-LIQUID****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists (USA)
ECHA	European Chemicals Agency
EU	European Union
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)

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