

837-P

FLUX PEN: WATER SOLUBLE, LEAD FREE

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: 837-P**Other Means of Identification:** Flux Pen: Water Soluble, Lead Free**Related Part #** 837-P

Recommended Use and Restriction on Use

Use: Water soluble flux pen**Uses Advised Against:** 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
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 CHEMTREC at **+1-800-424-9300**



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

837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****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). Severity categories 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 H336: May cause drowsiness and dizziness

Section continued on the next page

837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE***Continued...*

Prevention	Precautionary Statements
P102	Keep out of reach of children.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P261	Avoid breathing vapors.
P271	Use only outdoors or in well-ventilated area.
P280	Wear protective gloves/eye protection.
P264	Wash hands thoroughly after handling.
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 clothing. Rinse skin with water.
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.
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/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.	None	None

837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****Section 3: Composition/Information on Ingredients**

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

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, redness</i>
Response	Take off immediately all contaminated clothing. Rinse skin with water.
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	<i>redness, severe irritation, tearing, pain</i>
Response	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/attention
IF INHALED	P304 + P340, P312
Immediate Symptoms	<i>cough, dizziness, drowsiness, headaches, weakness</i>
Response	Remove person to fresh air (out of the contaminated zone) and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell.
IF SWALLOWED	P301 + P330, P331
Immediate Symptoms	<i>nausea, dizziness, weakness, headaches</i>
Response	Rinse mouth. Do NOT induce vomiting.

837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****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.
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 equipment in Section 8.
Precautions for Response	Avoid breathing the vapors. Remove or keep away all sources of ignition or extreme heat.
Environmental Precautions	Prevent spill from entering drains and waterways.
Containment	Not applicable
Cleaning	Place inert absorbent pads directly on the spill. Let absorb and wipe clean. Collect the contaminated pad in a sealable, solvent-resistant container.
Disposal Methods	Dispose of spill waste according to Section 13.

Section 7: Handling and Storage

Prevention	Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Avoid breathing vapors. Use only outdoors or in a well-ventilated area.
Handling	Wear protective gloves/eye protection. Wash hands thoroughly after handling.
Storage	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)
propan-2-ol	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	200 ppm 400 ppm 200 ppm 200 ppm 200 ppm 400 ppm	400 ppm Not established 400 ppm 400 ppm 400 ppm 500 ppm
glycerin (mist) respirable fraction	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	<i>Withdrawn 2013</i> 5 mg/m ³ 10 mg/m ³ 10 mg/m ³ 10 mg/m ³ 10 mg/m ³	Not established Not established Not established Not established Not established Not established

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database² and from suppliers' SDSs 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 the occupational exposure limits (OEL).

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, fluorinated rubber, or other chemically resistant gloves.

For incidental contacts, use neoprene, natural latex rubber, or other chemically resistant gloves.

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837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****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.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

Section 9: Physical and Chemical Properties

Physical State	Liquid	Lower Flammability Limit ^{c)}	2%
Appearance	Amber color	Upper Flammability Limit ^{c)}	12%
Odor	Alcohol-like, ethereal	Vapor Pressure @20 °C ^{b)}	4.2 hPa [32 mmHg]
Odor Threshold	Not available	Vapor Density	2.1 (Air = 1)
pH	Not available	Specific Gravity @25 °C	0.85
Freezing/Melting Point	Not available	Solubility in Water	Partially miscible
Boiling Point ^{a)}	≥81.8 °C [≥179 °F]	Partition Coefficient	Not available
Flash Point ^{b)}	12 °C [54 °F]	Auto-ignition Temperature ^{a)}	425 °C [685 °F]
Evaporation Rate	≤1.5 (ButAc = 1)	Decomposition Temperature	Not available
Flammability (solid, gas)	Not applicable	Viscosity @40 °C	Not available

a) Auto-ignition and boiling point values based on the literature values for ethanol, which is the component with the lowest values.

b) Flash point (closed cup) value based on propan-2-ol literature value

c) Calculated based on Raoult's Law and using Le Chatelier principle

837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****Section 10: Stability and Reactivity**

Reactivity	Acetone reacts exothermically with phosphorous oxychloride, which can lead to an explosion.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid flames, sparks, other ignition sources and incompatible substances.
Incompatibilities	Phosphorous oxychloride, strong oxidizing agents, strong bases, strong acids
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

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

Eyes	Causes redness, severe eye irritation, tearing, or pain if splashed in eyes or exposed to vapors.
Skin	May cause mild skin irritation.
Inhalation	May cause drowsiness or dizziness. Exposure to soldering fumes may cause nose, throat and lung irritation.
Ingestion	It may cause irritation and burning sensation. (See inhalation symptoms.)
Chronic	Prolonged or repeated dermal exposure may defat skin and cause skin dryness and cracking, and local redness and discomfort.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
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 RTECS² and ECHA were consulted. The data from supplier SDSs were also consulted.

Section continued on the next page

837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****Other Toxicological Effects**

Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Draize tests with propan-2-ol cause severe eye irritation for rabbits.
Sensitization (allergic reactions)	Based on available data, the classification criteria are not met.
Carcinogenicity (risk of cancer)	None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.
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	Propan-2-ol and can affect the central nervous system by inhalation causing drowsiness or dizziness.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met. There are no category 1 components.

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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 2-propanol component is not classifiable as an environmental toxicant with minimal LC50 of 9 640 mg/L 96 h for Pimephales promelas (fathead minnow); EC50 of 5 102 mg/L 24 h Daphnia magna (water flea); EC50 >2 000 mg/L 72 h Desmodesmus subcapitatus (green algae).

Acute Ecotoxicity

Available toxicity data does not meet classification thresholds.

Chronic Ecotoxicity

Available toxicity data does 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.

837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****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 30 mL and under

Cat. No. 837-P

Excepted QuantityCode **E2****Air****Refer to ICAO-IATA Dangerous Goods Regulations.**

Sizes 30 mL and under

Cat. No. 837-P

Excepted QuantityCode **E2**On air waybill, write:
"Dangerous Goods in
Excepted Quantities".*FOR REFERENCE ONLY***UN number:** UN1987**Shipping Name:** ALCOHOLS,
N.O.S. (Ethanol, Isopropanol)**Class:** 3**Packing Group:** II**Marine Pollutant:** No*Section continued on the next page*

837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****Sea****Refer to IMDG regulation.**

Sizes 30 mL and under

Cat. No. 837-P

Excepted QuantityCode **E2**In transport document,
write:"Dangerous Goods in
Excepted Quantities".*FOR REFERENCE ONLY***UN number:** UN1987**Shipping Name:** ALCOHOLS,
N.O.S. (Ethanol, Isopropanol)**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.

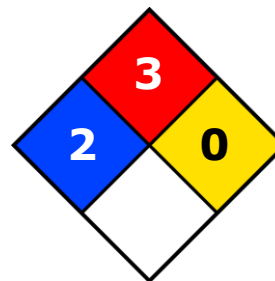
Hazardous Products Act (R.S.C., 1985, c. H-3)

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

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837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****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 $\geq 75\%$ 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)

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, 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.

837-P**FLUX PEN: WATER SOLUBLE, LEAD FREE****Section 16: Other Information**

SDS Prepared by	Regulatory Department
Date of Revision	14 January 2019
Supersedes	29 June 2017
Reason for Changes:	Revised Ground Transportation and updated to the latest format to comply with Hazcom2012 and WHMIS 2015.

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)
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.

Email: support@mgchemicals.com

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