Kit Revision Date: 13 March 2020

8339 RUBBER KEYPAD REPAIR KIT

MG Chemicals Multipart Product Kit

This product is a kit made up of multiple parts. Each part is an independently packaged chemical component and has independent hazard assessments.

Kit Content

Part	*Product Name*	*Product Use*
839	Graphite Conductive Pen	Electrically conductive coating
8333	Super Glue, Liquid	Cyanoacrylate adhesive
8339B	Poly Prep Primer	Primer for repair of keypads

Safety Data Sheets for each part listed above follow this cover sheet.

Transportation Instruction

Before offering this product kit for transport, read Section 14 for all parts listed above.

GRAPHITE CONDUCTIVE PEN **839-PEN**

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: Graphite Conductive Pen

SDS Code: 839-Pen

Related Part # 839-P

Recommended Use and Restriction on Use

Use: Electrically conductive coating

Uses Advised Against: Not available

Details of Manufacturer or Importer

Manufacturer
MG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA

☎ +1-800-340-0772
FAX +1-800-340-0773
E-MAIL support@mgchemicals.com
WEB www.mgchemicals.com

MG Chemicals (Head Office)
9347-193 Street
Surrey, British Columbia V4N 4E7
CANADA

☎ +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 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

Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Aspiration Hazard		1	Danger	Health
Specific Target Organ Toxicity	Repeated Exposure	2	Warning	Health
Reproductive Toxicity		2	Warning	Health
Flammable Liquid		2	Warning	Flame
Eye Irritation		2	Warning	Exclamation
Skin 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), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

Label Elements

Signal Word	**DANGER**
Pictograms	**Hazard Statements**
	H304: May be fatal if swallowed and enters airways H373: May cause damage to organs (central nervous system) through prolonged or repeated exposure H361: Suspected of damaging fertility or the unborn child
	H225: Highly flammable liquid and vapor
	H319: Causes serious eye irritation H315: Causes skin irritation H336: May cause drowsiness or dizziness

Section continued on the next page

Continued…

Prevention	Precautionary Statements
P102	Keep out of reach of children.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, flames, and other ignition sources. No Smoking.
P260, P271	Do not breathe vapors. Use only outdoors or in a well-ventilated area.
P233	Keep container tightly closed.
P270	Do not eat, drink, or smoke when using this products.
P280	Wear protective gloves and eye protection.
P264	Wash hands thoroughly after handling.
Response	**Precautionary Statements**
P308 + P313	IF exposed or concerned: Get medical advice or attention.
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
P301 + P310, P331	IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
P304 + P340, P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.
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 or attention.
P302 + P352	IF ON SKIN: Wash with plenty water.
P332 + P313	If skin irritation occurs: Get medical advice or attention.
P314	Get medical advice or attention if you feel unwell.
P362 + P364	Take off contaminated clothing and with it before reuse.
Storage	**Precautionary Statements**
P403 + P235	Store in well-ventilated place. Keep cool.
P405	Store locked up.

Section continued on the next page

Continued …

Disposal	Precautionary Statements
P501	Dispose of contents in accordance to local, regional, national, and 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

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
108-88-3	toluene	18%
123-86-4	n-butyl acetate	16%
67-64-1	acetone	13%
7782-42-5	graphite	7–11%
110-19-0	isobutyl acetate	6%
110-43-0	2-heptanone	6%
64-17-5	ethanol	5%
141-78-6	ethyl acetate	3%
108-65-6	1-methoxy-2-propanol acetate	2%
1333-86-4	carbon black	1%

Section 4: First-Aid Measures

Exposure Condition	*GHS Code/Symptoms/Precautionary Statements*
IF SWALLOWED	P301 + P310, P331
Immediate Symptoms	*nausea, sore throat, diarrhea, drowsiness, dizziness*
Response	Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.

Section continued on the next page

Continued…

IF INHALED	P304 + P340, P312, P308 + P313
Immediate Symptoms	*drowsiness, dizziness, cough, headaches, nausea, unconsciousness*
Response	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell. IF exposed or concerned: Get medical advice or attention.
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	*serious irritation, redness*
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 or attention.
IF ON SKIN	P302 + P352, P332 + P313, P314, P362 + P364
Immediate Symptoms	*redness, irritation, dry skin*
Response	Wash with plenty of water. If skin irritation occurs: Get medical advice or attention. Get medical advice or attention if you feel unwell. Take off contaminated clothing and with it before reuse.

Section 5: Fire-Fighting Measures

Extinguishing Media	Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
Specific Hazards	The liquid may float on water and ignite. 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 recommendations in Section 8.
Precautions for Response	Do not breathe the mist, spray, or vapors. Remove or keep away all sources of extreme heat or open flames.
Environmental Precautions	Avoid releasing to the environment.
Containment Methods	Not applicable
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 soap and water to remove the last traces of residue.
Disposal Methods	Dispose of spill waste according to Section 13.

Section 7: Handling and Storage

Prevention	Keep out of reach of children.
	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	Do not breathe vapors. Use only outdoors or in a well-ventilated area.
	Keep container tightly closed.
	Do not eat, drink, or smoke when using this product.
Handling	Wear protective gloves and eye protection.
	Take off contaminated clothing and wash it before reuse.
	Wash hands thoroughly after handling.
Storage	Store in well-ventilated place. 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)
toluene	ACGIH	20 ppm	Not established
	U.S.A. OSHA PEL	200 ppm	300 ppm
	Canada AB	50 ppm	Not established
	Canada BC	20 ppm	Not established
	Canada ON	20 ppm	Not established
	Canada QC	100 ppm	150 ppm
n-butyl acetate	ACGIH	150 ppm	Not established
	U.S.A. OSHA PEL	150 ppm	Not established
	Canada AB	150 ppm	200 ppm
	Canada BC	20 ppm	200 ppm
	Canada ON	150 ppm	Not established
	Canada QC	150 ppm	200 ppm
acetone	ACGIH	500 ppm	750 ppm
	U.S.A. OSHA PEL	1 000 ppm	Not established
	Canada AB	500 ppm	750 ppm
	Canada BC	250 ppm	500 ppm
	Canada ON	500 ppm	750 ppm
	Canada QC	750 ppm	1 000 ppm
graphite (natural)	ACGIH	2 mg/m^3	Not established
	U.S.A. OSHA PEL	3 mg/m^3	Not established
	Canada AB	2 mg/m^3	Not established
	Canada BC	2 mg/m^3	Not established
	Canada ON	2 mg/m^3	Not established
	Canada QC	2.5 mg/m^3	Not established
isobutyl acetate	ACGIH	150 ppm	Not established
	U.S.A. OSHA PEL	150 ppm	Not established
	Canada AB	150 ppm	Not established
	Canada BC	150 ppm	Not established
	Canada ON	150 ppm	Not established
	Canada QC	150 ppm	Not established

Section continued on the next page

Continued…

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
2-heptanone	ACGIH	50 ppm	Not established
	U.S.A. OSHA PEL	100 ppm	Not established
	Canada AB	50 ppm	Not established
	Canada BC	50 ppm	Not established
	Canada ON	25 ppm	Not established
	Canada QC	50 ppm	Not established
ethanol	ACGIH	Not established	1 000 ppm
	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	Not established
ethyl acetate	ACGIH	400 ppm	Not established
	U.S.A. OSHA PEL	400 ppm	Not established
	Canada AB	400 ppm	Not established
	Canada BC	150 ppm	Not established
	Canada ON	400 ppm	Not established
	Canada QC	400 ppm	Not established
1-methoxy-2-propanol acetate	ACGIH	Not established	Not established
	U.S.A. OSHA PEL	50 ppm	Not established
	Canada AB	Not established	Not established
	Canada BC	50 ppm	75 ppm
	Canada ON	50 ppm	Not established
	Canada QC	Not established	Not established
carbon black	ACGIH	3.5 mg/m^3	Not established
	U.S.A. OSHA PEL	3.5 mg/m^3	Not established
	Canada AB	3.5 mg/m^3	Not established
	Canada BC	3 mg/m^3	Not established
	Canada ON	3.5 mg/m^3	Not established
	Canada QC	3.5 mg/m^3	Not established

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH[1], OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database[2] 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.

Section continued on the next page

Engineering Controls

Ventilation	Keep airborne concentrations below the occupational exposure limits (OEL). Because the carbon black is bound to the liquid mixture, it does not present an airborne hazard under normal use. Ensure adequate ventilation if the product is mechanically misted or aerosolized.

Personal Protective Equipment

Eye protection	Wear appropriate protective eyeglasses or chemical safety goggles. **Recommendation:** Ensure that glasses have side shields for lateral protection.
Skin Protection	For likely contacts, use of protective butyl rubber, fluorinated rubber,or other chemically resistant gloves. For incidental contacts, use nitrile, neoprene, PVC gloves, or other chemically resistant gloves.
Respiratory Protection	For over-exposures up to 10 x OEL of mist or vapors, 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.

Section 9: Physical and Chemical Properties

Physical State	Liquid	**Lower Flammability Limit** [a]	1%
Appearance	Black	**Upper Flammability Limit** [a]	13%
Odor	Ethereal	**Vapor Pressure @20 °C** [b]	~89 hPa [~67 mmHg]
Odor Threshold	Not available	**Vapor Density**	>2 (Air =1)
pH	Not available	**Relative Density @25 °C**	0.98
Freezing/Melting Point	Not available	**Solubility in Water**	Partially soluble
Initial Boiling Point [a]	≥56 °C [≥132 °F]	**Partition Coefficient n-ocatanol/water**	Not available
Flash Point [a]	-18 °C [-0.4 °F]	**Auto-ignition Temperature** [c]	≥315 °C [≥599 °F]
Evaporation Rate	fast	**Decomposition Temperature**	Not available
Flammability	Flammable	**Viscosity @40 °C**	<20.5 mm^2/s

a) Values based on acetone component.
b) Calculated based on components.
c) Values based on 1-methoxy-2-propanol acetate, which is the component with the lowest auto-ignition value.

Section 10: Stability and Reactivity

Reactivity	Not available
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Ignition sources, open flames, and incompatible substances
Incompatibilities	Oxidizing agents, 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 May cause redness and severe irritation.

Skin May cause skin redness, irritation, and dry skin.

Inhalation May cause drowsiness, dizziness, cough, headaches, nausea, and unconsciousness.

Ingestion May cause nausea, sore throat, and diarrhea (see inhalation symptoms).

Chronic Prolonged or repeated exposure may cause skin dryness, cracking, as well as defatting the skin.

Chronic inhalation exposure may effect the central nervous system and lead to hearing loss with co-exposure to loud noises.

Ingestion or inhalation of paint material, mist, or vapor during pregnancy may increase the chances fetal death and developmental defects.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
toluene	636 mg/kg Rat	12 124 mg/kg Rabbit	49 g/m^3 4h Rat
n-butyl acetate	10 768 mg/kg Rat	17 600 mg/kg Rabbit	390 ppm 4h Rat
acetone	5 800 mg/kg Rat	>9 400 μL/kg Guinea pig	44 g/m^3 4 h Rat
isobutyl acetate	13 400 mg/kg Rat	>17 400 mg/kg Rabbit	>13.24 mg/L 6 h Rat
2-heptanone	1 670 mg/kg Rat	12 600 μL/kg Rabbit	Not available
ethanol	7 060 mg/kg Rat	Not available	20 000 ppm 10 h Rat

Section continued on the next page

Continued…

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
ethyl acetate	5 620 mg/kg Rat	>20 000 µL/kg Rabbit	45 g/m^3 2 h Mouse
1-methoxy-2-propanol acetate	8 532 mg/kg Rat	>5 g/kg Rabbit	Not available
carbon black	>15 g/kg Rat	>3 g/kg Rabbit [a)]	Not established

Note: Toxicity data from the RTECS[2] and ECHA databases were consulted. The data from supplier SDS were also consulted.
a) Lethal dose

Other Toxicological Effects

Skin corrosion/irritation
Toluene causes skin irritation based on Draize tests on animals.

Serious eye damage/irritation
Acetone, ethanol, and ethyl acetate are known serious eye irritants.

Sensitization
(allergic reactions)
Based on available data, the classification criteria are not met.

Carcinogenicity
(risk of cancer)
The carbon black is possibly carcinogenic by airborne routes of exposures under WHMIS.

Carbon Black [1333-86-4]

IARC Group 2B: Possibly carcinogenic to humans

ACGIH A3: Confirmed Animal Carcinogen with Unknown Relevance to Humans

CA Prop 65: Listed as a carcinogen (airborne, as unbound particles of respirable size)

NTP: Not listed

Ethanol [64-17-5]

IARC Group 1: Carcinogenic to human when consumed as beverage.

ACGIH A3: Confirmed animal carcinogen with unknown relevance to humans

CA Prop 65: Listed as a carcinogen when consumed as a beverage

NTP: Not listed

Section continued on the next page

Mutagenicity (risk of heritable genetic effects)	Based on available data, the classification criteria are not met.
Reproductive Toxicity (risk to sex functions)	At high doses, spermatogenisis was observed in male rat by inhalation of toluene.
Teratogenicity (risk of fetus malformation)	Fetotoxicity is observed in animal studies for inhalation and oral exposures for toluene. Extreme consumption of ethanol also presents risks for the newborn.
STOT-single exposure	Toluene, n-butyl acetate, acetone, isobutyl acetate, 2-heptanone, ethyl acetate and 1-methoxy-2-propanol acetate can affect the central nervous system by inhalation causing drowsiness or dizziness.
STOT-repeated exposure	Contains 18% toluene, which is a Cat 2 STOT repeated exposure hazard for the central nervous system and cochlear systems. Toluene is an ototoxic chemical according to rat studies: inhalation exposure in the presence of noise may lead to cochlear impairment.
Aspiration hazard	The liquid is content is classified as Cat 1 aspiration hazards. It is composed of >10% Cat 1 substances, and the kinematic viscosity is <20.5 mm^2/s at 40 °C.

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.

Toluene is an acute category 2 aquatic toxicant with minimal LC50 of 7.63 mg/L for Oncorhhynchus mykiss (rainbow trout); 8.9 mg/L 24 h Daphnia magna (water flea);
10 mg/L 24 h Pseudokirchneriella subcapitata (green algae).

The n-butyl acetate ingredient is an acute category 3 environmental toxicant (biodegradable, with minimal LC50 of 18 mg/L for fathead minnow).

Acetone is not classifiable as an environmental toxicant (with minimal LC50 96 h of 5 540 mg/L for Oncorhynchus mykiss (rainbow trout); EC50 48 h 13 500 mg/L Daphnia magna (water flea)).

The 1-methoxy-2-propanol acetate component is an acute category 3 environmental toxicant (with minimal LC50 96 h of ≥100 mg/L Salmo gairdneri).

Based on available data, carbon black is not classified as environmental hazards according to GHS criteria.

Section continued on the next page

Isobutyl acetate, heptan-2-one, ethanol, and ethyl acetate are not classifiable as an environmental toxicant (with minimal LC50 of >100 mg/L).

- Isobutyl acetate as a minimal LC50 48 h of 101 mg/L for Leuciscus idus melanotus and 250 mg/L for Daphnia magna (water flea).
- Heptan-2-one has a minimal LC50 96 h of 126 mg/L for Pimephales promelas (fathead minnow).
- Ethanol is biodegradable and has a minimal LC50 of >1 000 mg/L for fish, invertebrates, and algea.
- Ethyl acetate is has a minimal LC50 96 h of 220 mg/L for Pimephales promelas (fathead minnow); a LC50 48 h of 560 mg/L and EC50 24 h of 2 300 mg/L Daphnia magna (water flea); and an EC50 72 h 1 800 mg/L for Selenastrum.

Acute Ecotoxicity

Available data doesn't give rise to classification as an acute ecotoxicant.

Chronic Ecotoxicity

Available data doesn't give rise to classification as a chronic ecotoxicant.

Biodegradability

Expected to be biodegrable. The volatile solvent constituents will oxidize rapidly in air by photochemical reaction.

Other Effects

Regulated Volatile Organic Compounds (VOC) content according to the US (EPA) and Canadian (CEPA) authorities.

VOC = 52% [516 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 5 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: UN1263
Shipping Name: PAINT
Class: 3
Packing Group: II
Marine Pollutant: No
Flash Point = -18 °C [-0.4 °F]

Sea

Refer to IMDG regulations.

Sizes 30 mL and under

Excepted Quantity
Document as class **E2**

FOR REFERENCE ONLY

UN number: UN1263
Shipping Name: PAINT
Class: 3
Packing Group: II
Marine Pollutant: No
Flash Point = -18 °C [-0.4 °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.

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.

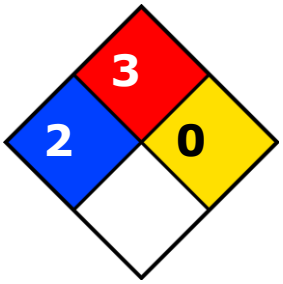
USA

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 contains toluene (CAS# 108-88-3), which is listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains toluene (CAS# 108-88-3; reportable quantity = 1 000 lb), which are subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

This product contains acetone (CAS# 67-64-1), isobutyl acetate (CAS# 110-19-0) and ethyl acetate (CAS# 141-78-6), which are subject to the CERCLA reporting requirements at the 5 000 lb (2 268 kg) threshold.

Section continued on the next page

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 toluene, which is listed as reproductively toxic.

This product contains carbon black, but it is bound and exposures during normal conditions of uses are below the Safe Harbor Threshold.

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 13 March 2020

Supersedes 08 November 2016

Reason for Changes: Change to emergency phone numbers.

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®)

Section continued on the next page

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.

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

Disclaimer This safety data sheet is provided as an information resource only. *M.G. Chemicals, Ltd.* believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to query and verify any information seeming suspect where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, regional, national, and international regulations.

8333 **SUPER GLUE, LIQUID**

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: 8333

Other Means of Identification: Super Glue, Liquid

Related Part # 8333-3G, 8333-20G

Recommended Use and Restriction on Use

Use: Cyanoacrylate adhesive

Uses Advised Against: Not available

Details of Manufacturer or Importer

Manufacturer
MG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA

☎ +1-800-340-0772
FAX +1-800-340-0773
E-MAIL support@mgchemicals.com
WEB www.mgchemicals.com

MG Chemicals (Head Office)
9347-193 Street
Surrey, British Columbia V4N 4E7
CANADA

☎ +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 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

Section 2: Hazard(s) Identification

Classification of the Hazardous Material

GHS Categories

Criteria		Category	Signal Word	Pictograms
Sensitization	Skin sensitizer	1	Warning	Exclamation
Skin Irritation		2	Warning	Exclamation
Eye Irritation		2	Warning	Exclamation
Specific Target Organ Toxicity	Single Exposure	3	Warning	Exclamation
Combustible Liquid		4	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.

Label Elements

Signal Word	**WARNING**
Pictograms	**Hazard Statements**
	H317: May cause an allergic skin reaction H315: Cause skin irritation H319: Causes serious eye irritation H335: May cause respiratory irritation
None mandated	H227: Combustible Liquid
Prevention	**Precautionary Statements**
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, open flames and other ignition sources. No smoking.
P261	Avoid breathing mist or vapors.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves and eye protection.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash hands thoroughly after handling.

Section continued on the next page

Continued…

Response	Precautionary Statements
P370 + P378	In case of fire: Use water spray, dry chemical, carbon dioxide, or chemical foam to extinguish.
	Do NOT force bonded skin or eyelids apart.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P333 + P313	If skin irritation or rash occurs: Get medical advice or attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
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 attention.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor if you feel unwell.
Storage	**Precautionary Statements**
P403 + P233	Store in a well-ventilated area. Keep container tightly closed.
P405	Store locked up.
Disposal	**Precautionary Statements**
P501	Dispose of contents in accordance to local, regional, national and international regulations.

Hazards Not Otherwise Classified

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
Bonds skin	Bonds skin or eyes in seconds.	Warning	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
7085-85-0	ethyl-2-cyanoacrylate	86–100%

Section 4: First-Aid Measures

Exposure Condition	*GHS Code: Precautionary Statement*
IF ON SKIN	P302 + P352, P362 + P364, P333 + P313
Immediate Symptoms	*irritation, redness, contact allergic dermatitis*
Response	Do NOT force bonded skin apart. Wash with plenty of warm water. If skin bonding, irritation, or rash occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse.
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	*redness, tearing, severe irritation, pain*
Response	Do NOT force bonded eyelids apart. Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eyelids bonding occurs or if irritation persists: Get medical attention.
IF INHALED	P304 + P340, P312, P308 + P313
Immediate Symptoms	*cough, irritation of the respiratory track*
Response	Remove person to fresh air and keep comfortable for breathing. If feeling unwell: Call a POISON CENTER or doctor.
IF SWALLOWED	P301 + P330
Immediate Symptoms	*Low toxicity—the product immediately solidifies in contact with saliva, adhering in the mouth orifice*
Response	Do NOT force bonded skin apart. Rinse mouth with warm water. If skin bonding occurs: Get medical advice or attention. Encourage wetting with saliva and, without great force, apply a gentle pressure with a blunt instrument to peel or roll skin apart.

Advice to Physicians

Accidentally bonded tissue doesn't require surgery. Lachrymatory and saliva effects may take up to 3 days to unglue eyelids or lips. Note that solidified adhesive particles may be abrasive to the eyes.

Section 5: Fire-Fighting Measures

Extinguishing Media	In case of fire: Use dry chemical, carbon dioxide, water fog, or chemical foam to extinguish.
Specific Hazards	Combustible liquid. Produces irritating fumes in fires or in contact with hot surfaces.
Combustion Products	Combustion produces carbon oxides (CO, CO_2) and nitrogen oxides (NO_x).
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

Section 6: Accidental Release Measures

Personal Protection	Use personal protection recommended in Section 8.
Precautions for Response	Remove all sources of extreme heat or open flames. Avoid contact with eyes, skin and mouth. Avoid breathing mist or vapors.
Environmental Precautions	Not applicable
Containment	Not applicable
Cleaning	Do not use mop or cloth to clean. Flood with water to fully polymerize the adhesive. Scrape off the cured adhesive.
Disposal	The cured adhesive is not a hazardous waste and may be disposed using conventional methods.

Section 7: Handling and Storage

Prevention	Keep out of reach of children. Keep away from heat, hot surfaces, open flames and other ignition sources. No smoking. Avoid contact with skin, eyes and mouth. Avoid breathing mist or vapors. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Take off contaminated clothing and wash it before reuse.
Handling	Wear protective gloves and eye protection. Wash hands thoroughly after handling.

Section continued on the next page

Storage

Store in a well-ventilated area. Keep tightly closed. Store locked up.

Keep storage temperature ≤25 °C [≤77 °F].

RECOMMENDATION: Ideal storage temperature is 5 to 10 °C [41 to 50 °F].

Keep away from moisture, water, alcohols, amines, and alkali metals.

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)
ethyl-2-cyanoacrylate	ACGIH	0.2 ppm	Not established
	U.S.A. OSHA PEL	Not established	Not established
	Canada AB	0.2 ppm	Not established
	Canada BC	0.2 ppm	Not established
	Canada ON	0.2 ppm	Not established
	Canada QC	Not established	Not established

Note: The ACGIH[1], OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database[2] 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.

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.

Skin Protection

Wear appropriate protective clothing to prevent skin contact.

RECOMMENDATION: Use neoprene, natural rubber, butyl rubber, or other chemically resistant gloves.

Do not use cotton or cloth gloves.

Section continued on the next page

Respiratory Protection If exposed to mist, wear respirator such as a half-mask respirator.

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 with water and soap after use.

Section 9: Physical and Chemical Properties

Physical State	Liquid	**Lower Flammability Limit**	Not available
Appearance	Green	**Upper Flammability Limit**	Not available
Odor	Mild	**Vapor Pressure @27 °C**	0.4 mmHg [<0.1 kPa]
Odor Threshold	Not available	**Vapor Density**	>4 (Air =1)
pH	Not available	**Relative Density @21 °C**	1.1
Freezing/Melting Point	Not available	**Solubility in Water**	Slight
Initial Boiling Point	≥149 °C [≥300 °F]	**Partition Coefficient n-octanol/water**	Not available
Flash Point	>93 °C [>200 °F]	**Auto-ignition Temperature**	Not available
Evaporation Rate	Not available	**Decomposition Temperature**	Not available
Flammability	Combustible	**Viscosity @40 °C**	Not available

Section 10: Stability and Reactivity

Reactivity	Will rapidly and exothermically polymerize in presence of water, amines, alkalis, and alcohols.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid flames, sparks, other ignition sources and incompatible substances.
Incompatibilities	Strong oxidizing agents, water, amines, alkalis, and alcohols
Decomposition	For thermal decomposition, see combustion products in Section 5

Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Eyes	Causes severe eye irritation or pain. If splashed in eyes, it will bond in seconds.
Skin	May cause skin irritation, redness, and pain. May cause rash due to allergic reaction. It bonds skin in seconds.
Inhalation	May cause nose, throat, and lung irritation.
Ingestion	Not applicable due to likely polymerization in mouth.
Chronic	Prolonged and repeated exposure may lead to skin sensitization.

Lethal Exposure Concentrations

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
ethyl-2-cyanoacrylate	>5 000 mg/kg Rat	>2 000 mg/kg Rabbit	21 110 mg/m^3 Rat 1 h

Note: Toxicity data from the RTECS[2] and ECHA databases were consulted. The data from supplier SDSs were also consulted.

Section continued on the next page

Other Toxicological Effects

Skin corrosion/irritation	Cause skin irritation.
Serious eye damage/irritation	Causes serious eye irritation.
Respiratory and skin sensitization (allergic reactions)	Skin sensitizer based on epidemiological evidence.
Carcinogenicity (risk of cancer)	Not 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	May cause respiratory irritation.
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.

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 component substance is not classifiable as an environmental toxicant.

Acute Ecotoxicity

Available toxicity data does not meet classification thresholds.

Section continued on the next page

Chronic Ecotoxicity

Available toxicity data does not meet classification thresholds.

Persistence and Biodegradability

Not available

Bioaccumulative Potential

Not available

Mobility in Soil

Not available

Other Effects

Not available

Section 13: Disposal Considerations

Dispose of contents in accordance with all local, regional, national, and international regulations.

Section 14: Transport Information

Ground

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); **USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**
8333-3G, 8333-20G **Not Regulated** Applies to combustible liquids shipped in non-bulk packages such as 8333-3G, 8333-20G

Section continued on the next page

Air

Refer to ICAO-IATA Dangerous Goods Regulations.	
Sizes 30 mL and under *8333-3G, 8333-20G* **Excepted Quantity** Document as class **E1** (Max net quantity per packaging 1 L) On airway bill, write: "Dangerous Goods in Excepted Quantities."	
Sizes greater than 30 mL **UN number**: UN3334 **Shipping Name:** Aviation Regulated Liquid, N.O.S. (ethyl-2-cyanoacrylate) **Class:** 9 **Packing Group**: III **Marine Pollutant:** No	

Sea

Refer to IMDG regulations.
Not Regulated

Note: **Shipper must be appropriately <u>trained and certified</u> 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.

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.

Section continued on the next page

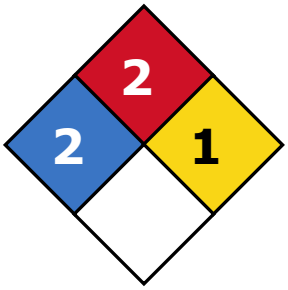
USA

Other Classifications

HMIS® RATING

HEALTH:	* 2
FLAMMABILITY:	2
PHYSICAL HAZARD:	1
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 does not contain substances, which are 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, USA)

This product does not contain any substances on the California Proposition 65 list.

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.

Section 16: Other Information

MSDS Prepared by	MG Chemicals' Regulatory Department
Date of Revision	06 March 2020
Supersedes	13 September 2019
Reason for Changes:	Change to emergency phone numbers.

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)
EC50	Half maximal effective concentration
EL50	Half maximal effective loading
NOELR	No observable effect loading ratio
GHS	Globally Harmonized System of Classification of Labeling of Chemicals
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
PEL	Permissible Exposure Limit
STEL	Short-Term Exposure Limit
TCLo	Lowest published toxic concentration
TWA	Time Weighted Average
VOC	Volatile Organic Content

Section continued on the next page

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

Disclaimer

This safety data sheet is provided as an information resource only. *M.G. Chemicals, Ltd.* believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to query and verify any information seeming suspect where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, regional, national, and international regulations.

8339B

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Name: Poly Prep Primer (8339B)

Other Means of Identification : 8339B

Related Part # 8339-B

Recommended Use and Restriction on Use

Use: Primer for repair of keypads

Uses Advised Against: Not available

Details of Manufacturer or Importer

Manufacturer
MG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA

☎ +1-800-340-0772
FAX +1-800-340-0773
E-MAIL support@mgchemicals.com
WEB www.mgchemicals.com

MG Chemicals (Head Office)
9347-193 Street
Surrey, British Columbia V4N 4E7
CANADA

☎ +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 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

Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Flammable Liquid		2	Danger	Flame
Aspiriation Hazard		1	Danger	Health
Skin Irritation		2	Warning	Exclamation
Specific Target Organ Toxicity	Single Exposure	3	Warning	Exclamation
Environmental Hazard	Acute Aqua. Tox.	3	Warning	Environment

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.

Label Elements

Signal Word	**DANGER**
Pictograms	**Hazard Statements**
	H225: Highly flammable liquid and vapor
	H304: May be fatal if swalled and enters airways
	H315: Causes skin irritation H336: May cause drowsiness or dizziness
	H400: Very toxic to aquatic life

Section continued on the next page

Continued…

Prevention	Precautionary Statements
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, flames, and other ignition sources. No Smoking.
P233	Keep container tightly closed.
P260 + P271	Avoid breathing vapors. Use only outdoors or in a well-ventilated area.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves, eye protection or face protection.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
Response	**Precautionary Statements**
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
P301 + P310 + P331	IF SWALLOWED: Immediately call a POISON CENTER or doctor. Do NOT induce vomiting.
P303 + P361 + P364 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water or shower.
P333 + P313	If skin irritation or rash occurs: Get medical advice or attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.
P391	Collect spillage.
Storage	**Precautionary Statements**
P403 + P235	Store in well-ventilated place. Keep cool.
P405	Store locked up.
Disposal	**Precautionary Statements**
P501	Dispose of contents in accordance to local, regional, and 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*

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
142-82-5	heptane	99%
6674-22-2	2,3,4,6,7,8,9,10-octahydropyrimidol	1%

Section 4: First-Aid Measures

Exposure Condition	*GHS Code/Symptoms/Precautionary Statements*
IF ON SKIN (or hair)	P303 + P361 + P364 + P352, P333 + P313
Immediate Symptoms	*redness, mild irritation, dry skin*
Response	Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water/shower. If skin irritation or rash occurs: Get medical advice/attention.
IF INHALED	P304 + P340 + P312
Immediate Symptoms	*cough, drowsiness, dizziness, headaches, nausea, unconsciousness*
Response	Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE/doctor if you feel unwell.
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	*irritation, redness, pain*
Response	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.
IF SWALLOWED	P301 + P310 + P331
Immediate Symptoms	*nausea, sore throat, abdominal pain, diarrhea, drowsiness, dizziness*
Response	Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.

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 liquid may float on water and ignite. 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 recommendations in Section 8.
Precautions for Response	Avoid breathing vapors. Remove or keep away all sources of extreme heat or open flames.
Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways.
Containment Methods	Not applicable
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 soap and water to remove the last traces of residue.
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, hot surfaces, sparks, flames, and other ignition sources. No Smoking. Keep container tightly closed. Avoid breathing vapors. Use only outdoors or in a well-ventilated area. Keep container tightly closed. Do not eat, drink, or smoke when using this product.

Section continued on the next page

Handling	Wear protective gloves/clothing/eye protection.
	Take off contaminated clothing and wash it before reuse.
	Wash hands thoroughly after handling.
	Avoid release to the environment. Collect spillage.
Storage	Store in well-ventilated place. Keep cool.
	Store locked up.

Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

Chemical Name	Country/ Provinces	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
heptane	ACGIH U.S.A. OSHA PEL Canada AB Canada BC Canada ON Canada QC	400 ppm 500 ppm 400 ppm 400 ppm 400 ppm 400 ppm	500 ppm Not established 500 ppm 500 ppm 500 ppm 500 ppm

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH[1], OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from by RTECS database[2] and data 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.

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: Ensure that glasses have side shields for lateral protection.
Skin Protection	For likely contacts, use of protective butyl rubber or other chemically resistant gloves.

Section continued on the next page

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. **RECOMMENDATION:** Consult your local safety supply store to ensure your respirator has filter cartridges appropriate for the ingredients listed in section 3 of this SDS, and that the respirator is fitted to the employee by a professional.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

Section 9: Physical and Chemical Properties

Physical State	Liquid	**Lower Flammability Limit**	1.1%
Appearance	Slight amber/brown	**Upper Flammability Limit**	7%
Odor	Not available	**Vapor Pressure @20 °C**	55.3 hPa [40 mmHg]
Odor Threshold	Not available	**Vapor Density**	Not available
pH	Not available	**Specific Gravity @25 °C**	0.79
Freezing/Melting Point	Not available	**Solubility in Water**	Miscible
Boiling Point	>98 °C [>208 °F]	**Partition Coefficient**	Not available
Flash Point	-4 °C [25 °F]	**Auto-ignition Temperature**	223 °C [433 °F]
Evaporation Rate	Not available	**Decomposition Temperature**	Not available
Flammability (solid, gas)	Not available	**Viscosity @25 °C**	Not available

Section 10: Stability and Reactivity

Reactivity	Not available
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Ignition sources, open flames, excessive heat, and incompatible substances
Incompatibilities	Oxidizing agents, 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

Routes of Exposure

Inhalation, Eye contact, Skin contact, and Ingestion

Symptoms Summary

Eyes	Causes irritation, redness, and pain.
Inhalation	May cause cough, drowsiness, dizziness, headaches, nausea, or unconsciousness.
Ingestion	May cause nausea, sore throat, abdominal pain, and diarrhea (also see inhalation symptoms).
Skin	Causes skin redness, mild irritation, and dry skin.
Chronic	Prolonged or repeated exposure may cause skin dryness, cracking, as well as defatting the skin. Exposure to silver powder may also cause argyria, an irreversible blue-grey discoloration of the skin. Chronic inhalation exposure to nickel dust or mist may affect the central nervous system, damage lungs, and lead to hearing loss with co-exposure to loud noises. Ingestion or inhalation of paint material, mist, or vapor during pregnancy may increase the chances fetal death and developmental defects.

Section continued on the next page

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
heptane	≥5 000 mg/kg Rat [a)]	≥2 000 mg/kg Rabbit [a)]	103 mg/L Rat 4 h
2,3,4,6,7,8,9,10-octahydropyrimidol	≥215 mg/kg Rat [a)]	Not established	Not established

Note: Toxicity data from the RTECS[2] database and ECHA were consulted. The data from supplier (M)SDS were also consulted.
a) Toxicity values from key ECHA registrant studies

Other Toxicological Effects

Skin corrosion/irritation — Known skin irritant.

Serious eye damage/irritation — Based on available data, the classification criteria are not met.

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 — Heptane may affect the central nervous system.

STOT-repeated exposure — Based on available data, the classification criteria are not met.

Aspiration hazard — Mixture containing more than 10% Class 1 aspiration toxicant and having a viscosity <20.5 mm^2/s

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 heptane component is an acute category 2 aquatic toxicant (with minimal LC50 96 h of 4 mg/L for Carassius auratus (gold fish); EC 50 48 h 13 500 mg/L Daphnia magna (water flea).

The 2,3,4,6,7,8,9,10-octahydropyrimidol is not classified as an environmental toxicant.

Acute Ecotoxicity

Category 1

Very toxic to aquatic life

Chronic Ecotoxicity

Available data doesn't give rise to classification as a chronic ecotoxicant.

Biodegradability

Solvent part expected to be biodegradable, but not the polymer or metal filler. The volatile solvent constituents will oxidize rapidly in air by photochemical reaction.

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 5 liters and under

Limited Quantity

UN number: UN1263
Shipping Name: PAINT
Class: 3
Packing Group: II
Marine Pollutant: No
Flash Point = -4 °C [25 °F]

Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 30 mL and under

Excepted Quantity
Document as class **E2**

UN number: UN1263
Shipping Name: PAINT
Class: 3
Packing Group: II
Marine Pollutant: No
Flash Point = -4 °C [25 °F]

Sea

Refer to IMDG regulations.

Sizes 30 mL and under

Excepted Quantity
Document as class **E2**

UN number: UN1263
Shipping Name: PAINT
Class: 3
Packing Group: II
Marine Pollutant: No
Flash Point = -4 °C [25 °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.

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.

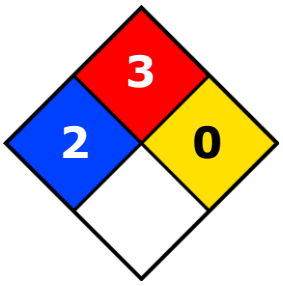
USA

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)

Section continued on the next page

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 products that are listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain any chemicals 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, USA).

This product does not contain any listed substances in California.

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.

Section 16: Other Information

SDS Prepared by	MG Chemical's Regulatory Department
Date of Review	12 March 2020
Supersedes	19 November 2015

Reason for Changes: Update to the emergency phone number information.

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®)

Section continued on the next page

8339B

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

Mailing Addresses

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

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

Disclaimer This safety data sheet is provided as an information resource only. *M.G. Chemicals, Ltd.* believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to query and verify any information seeming suspect where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, regional, national, and international regulations.