

4225-A

EPOXY CONFORMAL COATING

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: 4225-A**Other Means of Identification:** Epoxy Conformal Coating**Related Part #** 4225-1.35L, 4225-2.7L, 4225-10.8L, 4225-60L, 4225-540L

Recommended Use and Restriction on Use

Use: Conformal coating epoxy resin**Uses Advised Against:** Not applicable

Details of Manufacturer or Importer

ManufacturerMG 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**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 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

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Section 2: Hazard(s) Identification
Classification of Hazardous Chemical
GHS Categories

Criteria	Category	Signal Word	Pictograms
Flammable Liquid	2	Danger	Flame
Sensitization	1	Warning	Exclamation
Skin Irritation	2	Warning	Exclamation
Eye Irritation	2	Warning	Exclamation
Specific Target Organ Toxicity	3	Warning	Exclamation
Hazardous to the aquatic environment	2	None	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
	H317: May cause an allergic skin irritation H315: Causes skin irritation H319: Causes serious eye irritation H336: May cause drowsiness or dizziness
	H411: Toxic to aquatic life with long lasting effects

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Prevention	Precautionary Statements
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting equipment.
P243	Take action to prevent static discharges.
P261, P271	Avoid breathing mist/vapors/spray. Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P264	Wash hand 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.
P303 + P361 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash skin with water/shower.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses. If present and easy to do. Continued rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P391	Collect spillage.
Storage	Precautionary Statements
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

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Disposal	Precautionary Statements
P501	Dispose of contents/container in accordance to local/regional/international regulations.

Other Hazards

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)
25085-99-8	propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers	50%
67-63-0	isopropyl alcohol	26%
123-86-4	n-butyl acetate	12%
68609-97-2	alkyl glycidyl ether	7%
67-64-1	acetone	5%

Section 4: First-Aid Measures

Exposure Condition	GHS Code/Symptoms/Precautionary Statements
IF ON SKIN	P302 + P352, P362 + P364, P333 + P313
Immediate Symptoms	<i>dry skin, redness, irritation, allergic dermatitis</i>
Response	Wash with plenty of water. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.

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IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	<i>irritation, pain, blurred vision</i>
Response	Rinse cautiously with water for at least 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
Immediate Symptoms	<i>headache, sore throat, cough, confusion, dizziness, drowsiness</i>
Response	Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED	P301 + P330, P331
Immediate Symptoms	<i>low toxicity</i>
Response	Rinse mouth. 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 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. Prevent fire-fighting wash from entering waterway or sewer system.
Combustion Products	Produces carbon oxides (CO, CO ₂), nitrogen oxides (NO _x), sulphur oxides, and toxic fumes.
Fire-Fighter	Wear self-contained breathing apparatus and full firefighting turn-out gear.

4225-A**EPOXY CONFORMAL COATING****Section 6: Accidental Release Measures**

Personal Protection	See personal protection recommendations in Section 8.
Precautions for Response	Avoid breathing mist/spray/vapors. Remove or keep away all sources of ignition or extreme heat.
Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways.
Containment Methods	Contain with inert and nonflammable absorbent (such as soil, sand, vermiculite).
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. RECOMMENDATION: Use a grounded stainless steel or carbon steel 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, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Keep container tightly closed. Avoid breathing mist/vapors/spray. Use only outdoors or in a well-ventilated area. Avoid release to the environment.
Handling	Wear protective gloves/protective clothing/eye protection/face protection. Wash hand thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Collect spillage.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.

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Section 8: Exposure Controls/Personal Protection
Substances with Occupational Exposure Limit Values

Chemical Name	Country/Province	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
isopropyl alcohol	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
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

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 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).

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4225-A**EPOXY CONFORMAL COATING****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.

For incidental contacts, use nitrile or other chemically resistant 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

Physical State	Liquid	Lower Flammability Limit	2.3%
Appearance	Clear	Upper Flammability Limit	14%
Odor	Ester-like	Vapor Pressure @20 °C	<0.001 hPa [<0.001 mmHg]
Odor Threshold	Not available	Vapor Density	>2.01
pH	Not available	Relative Density @25 °C	0.97
Freezing/Melting Point	-90 °C [-130 °F]	Solubility in Water	Partly soluble
Initial Boiling Point ^{a)}	56 °C [133 °F]	Partition Coefficient n-octanol/water	Not available
Flash Point ^{a)}	-17 °C [1.4 °F]	Auto-ignition Temperature ^{b)}	420 °C [788 °F]
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability	Highly Flammable	Viscosity @25 °C	<20.5 mm ² /s

a) Based on acetone component.

b) Based on n-butyl acetate component.

Section 10: Stability and Reactivity

Reactivity	Reacts exothermically with amines.
Chemical Stability	Chemically stable at normal temperatures and pressures.
Conditions to Avoid	Direct sunlight, high temperatures, open flames, sparks and incompatible substances.
Incompatibilities	Strong oxidizing agents, strong bases, acids
Polymerization	Will cause irreversible polymerization with considerable heat buildup with aliphatic amine.
Decomposition	Avoid prolonged exposure to temperatures above 250 °C. Generation of gas during decomposition can cause pressure in closed systems. For thermal decomposition, see combustion products in Section 5.

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

Eyes	May cause irritation, pain, and blurred vision.
Skin	May cause dry skin, redness, irritation, allergic dermatitis.
Inhalation	May cause headache, sore throat, cough, confusion, dizziness, and drowsiness.
Ingestion	Low toxicity.
Chronic	Prolonged or repeated exposure may cause dry skin, cracking, as well as defatting of the skin. Repeated or prolonged skin contact may cause allergic skin reaction.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers polyphenylene isocyanate	>15 000 mg/kg Rat	23 000 mg/kg Rabbit	Not Available
isopropyl alcohol	5 000 mg/kg Rat	12 800 mg/kg Rabbit	24.6 mg/L 4 h Rat
n-butyl acetate	10 768 mg/kg Rat	>17 600 mg/kg Rabbit	>21.1 mg/L 4 h Rat
alkyl glycidyl ether	19 200 mg/kg Rat	>4 000 mg/kg Rabbit	Not Available
acetone	5 800 mg/kg Rat	7 435 mg/kg Rabbit	16 000 ppm 4 h Rat

Note: Toxicity data from the RTECS² and ECHA databases were consulted. The data from supplier SDSs were also consulted.

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4225-A**EPOXY CONFORMAL COATING****Other Toxicological Effects****Skin Corrosion/Irritation**

Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers and alkyl glycidyl ether may cause skin irritation.

Serious Eye Damage/Irritation

Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers, isopropyl alcohol, and acetone may cause eye irritation.

Sensitization
(allergic reactions)

Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers and alkyl glycidyl ether may cause skin sensitization.

Carcinogenicity
(risk of cancer)

Based on available data, the classification criteria are not met.

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

Isopropyl alcohol, n-butyl acetate, and acetone may cause drowsiness and dizziness through inhalation.

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.

Propane, 2,2-bis[p-(2,3-epoxypropoxy)phenyl]-, polymers is classified as an environmental hazard according to GHS criteria.

Acute Ecotoxicity

Available toxicity data does not meet classification thresholds.

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Chronic Ecotoxicity

Category 2

Toxic to aquatic life with long lasting effects

Avoid release to the environment. Collect Spillage.

Biodegradability

Not available

Other Effects

Volatile Organic Content (VOC) = 45% [826 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 regulations (Canadian Transportation of Dangerous Goods regulations); **USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**

Sizes 1 L and under
Part A of kits 4225-1.35L and
4225-2.7L

Limited Quantity



Sizes greater than 1 L
Part B of kits 4225-10.8L, 4225-60L and 4225-540L

UN number: UN1993

Shipping Name: Flammable
Liquid, N.O.S (isopropyl alcohol,
acetone)

Class: 3

Packing Group: II

Marine Pollutant: Yes



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4225-A**EPOXY CONFORMAL COATING****Air****Refer to ICAO-IATA Dangerous Goods Regulations.**

Sizes 0.5 L and under

*Part A of kits 4225-1.35L***Limited Quantity**Max Net Qty/Pkg =
1 L

Sizes greater than 0.5 L

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

*Part A of kits 4225-2.7L, 4225-10.8L, 4225-60L and 4225-540L***UN number:** UN1993**Shipping Name:** Flammable
Liquid, N.O.S (isopropyl alcohol,
acetone)**Class:** 3**Packing Group:** II**Marine Pollutant:** Yes**Sea****Refer to IMDG regulations.**

Sizes 1 L and under

*Part A of kits 4225-1.35L and 4225-2.7L***Limited Quantity**

Sizes greater than 1 L

*Part A of kits 4225-10.8L, 4225-60L and 4225-540L***UN number:** UN1993**Shipping Name:** Flammable
Liquid, N.O.S (isopropyl alcohol,
acetone)**Class:** 3**Packing Group:** II**Marine Pollutant:** Yes

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)

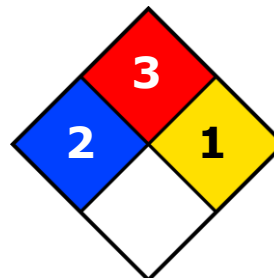
The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

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Revision Date: 05 March 2020 / Ver. 3.02

4225-A**EPOXY CONFORMAL COATING****USA****Other Classifications****HMIS® RATING**

HEALTH:	*	2
FLAMMABILITY:		3
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 contains acetone (CAS# 67-64-1), which is subject to the CERCLA reporting requirements at the 5 000 lb (2 268 kg) threshold.

This product contains n-butyl acetate (CAS# 123-86-4), which is subject to the CERCLA reporting requirements at the 5 000 lb (2 268 kg) threshold.

This product contains 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, USA).

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

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4225-A**EPOXY CONFORMAL COATING****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 Creation 05 March 2020

Supersedes 01 August 2018

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®)

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4225-A**EPOXY CONFORMAL COATING****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
Wt	Weight

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

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