

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
CANADA

+1-800-340-0772

Fax +1-800-340-0773**E-mail** support@mgchemicals.com**Web** www.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)



4225-A

EPOXY CONFORMAL COATING



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

4225-A**EPOXY CONFORMAL COATING****Section 2: Hazard(s) Identification****Classification of Hazardous Chemical****GHS Categories**

Criteria		Category	Signal Word	Pictograms
Flammable Liquid		2	Danger	Flame
Sensitization	Skin	1	Warning	Exclamation
Skin Irritation		2	Warning	Exclamation
Eye Irritation		2	Warning	Exclamation
Specific Target Organ Toxicity	Single Exposure	3	Warning	Exclamation
Hazardous to the aquatic environment	Chronic	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

Section continued on the next page

4225-A
EPOXY CONFORMAL COATING

	H411: Toxic to aquatic life with long lasting effects
Prevention	Precautionary Statements
P102 P210 P233 P240 P241 P243 P261, P271 P272 P280 P264 P273	Keep out of reach of children. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment. Take action to prevent static discharges. Avoid breathing mist, vapors, and spray. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves, protective clothing, eye protection, and face protection. Wash hand thoroughly after handling. Avoid release to the environment.
Response	Precautionary Statements
P370 + P378 P303 + P361 + P352 P333 + P313 P305 + P351 + P338 P337 + P313	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses. If present and easy to do. Continued rinsing. If eye irritation persists: Get medical advice/attention.

4225-A**EPOXY CONFORMAL COATING**

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.
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

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

<i>Exposure Condition</i>	<i>GHS Code/Symptoms/Precautionary Statements</i>
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.

Section continued on the next page

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

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.

4225-A**EPOXY CONFORMAL COATING****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, CO₂), nitrogen oxides (NO_x), sulphur oxides, and toxic fumes.

Fire-Fighter

Wear self-contained breathing apparatus and full firefighting turn-out gear.

Section 6: Accidental Release Measures**Personal Protection**

See personal protection recommendations in Section 8.

Precautions for Response

Avoid breathing the mist, spray, and 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.

4225-A**EPOXY CONFORMAL COATING****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, and lighting equipment.

Keep container tightly closed.

Avoid breathing mist, vapors, and spray. Use only outdoors or in a well-ventilated area.

Avoid release to the environment.

Handling

Wear protective gloves, protective clothing, eye 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.

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

Section continued on the next page

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.

4225-A

EPOXY CONFORMAL COATING

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.

4225-A**EPOXY CONFORMAL COATING****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	<p>Avoid prolonged exposure to temperatures above 250 °C. Generation of gas during decomposition can cause pressure in closed systems.</p> <p>For thermal decomposition, see combustion products in Section 5.</p>

4225-A

EPOXY CONFORMAL COATING

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
Mixture ATE	>5 000 mg/kg	>5 000 mg/kg	58 mg/L

Note: Toxicity data from the ECHA database were consulted. The data from supplier SDSs were also consulted.

4225-A

EPOXY CONFORMAL COATING

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.

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

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]

4225-A**EPOXY CONFORMAL COATING****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 up to 5 L (passenger road and rail vehicle), >5 L (cargo)

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



Section continued on the next page

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.

4225-A

EPOXY CONFORMAL COATING

Section 15: Regulatory Information

Canada

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

All hazardous ingredients are listed on the DSL.

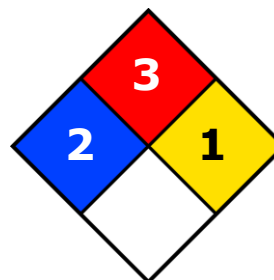
Hazardous Products Act (R.S.C., 1985, c. H-3)

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

Section continued on the next page

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.

Section continued on the next page

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 07 December 2023

Supersedes 09 November 2022

Reason for Changes: Update to transport section 14

Reference

1) ACGIH 2023 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 (2023).

Section continued on the next page

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.

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Phone: +1-905-331-1396

Mailing Addresses

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Disclaimer

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4225-A

EPOXY CONFORMAL COATING

accordance with local, regional, national, and
international regulations.

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