

INDUSTRIAL FORMULATORS OF CANADA LTD

MATERIAL SAFETY DATA SHEET

G-2 Epoxy Adhesive - Part A (Resin)

SECTION 1: Product Identification

PRODUCT NAME: G-2 Epoxy Adhesive - Part A
PRODUCT USE: Epoxy Resin
MANUFACTURER NAME: Industrial Formulators of Canada Ltd.
ADDRESS & PHONE #: 3824 William Street, Burnaby, B.C. V5C 3H9
 Ph: (604) 294-6315/Fax: (604) 294-8052
T.D.G. CLASSIFICATION: Not regulated
UN NUMBER: Not applicable
PACKING GROUP: Not applicable
WHMIS CLASSIFICATION: CAUTION. D2B Other toxic effects. Irritant/skin sensitizer

SECTION 2: Hazardous Ingredients

<u>Hazardous Ingredients</u>	<u>%</u>	<u>CAS Number</u>	<u>LD/50</u>	<u>LC/50</u>
			<u>(Specify Species & Route)</u>	
Diglycidyl ether of bisphenol A	88	25068-38-6	30 gr/kg Oral Rat	Not available
Dibutyl Phthalate	8.8	84-74-2	4840 mg/kg Oral Rat	Not available
Phenol	1	108-95-2	Not available	Not available
m-Cresol	<1	108-39-4	Not available	Not available
o-Cresol	<1	95-48-7	Not available	Not available
p-Cresol	<1	106-44-5	Not available	Not available
2,4-Dimethylphenol	<1	105-67-9	Not available	Not available

SECTION 3: Physical Data

Physical State: Viscous liquid
Odour & Appearance: Light yellow to amber colour, sweet tarry odour
Odour Threshold: Not available
Vapour Pressure (MMHG): Not available
Vapour Density (Air=1): Not available
Solubility in Water: Negligible
Specific Gravity: 1.15
PH: Not available
Evaporation Rate: Not available
Boiling Point: Not available
Freezing Point: Not available
Coefficient of Water/Oil Dist: Not available

Section 4: Fire & Explosion Data

IFC MSDS - G2-A - con't

Flammability: Not flammable

Extinguishing Media: Foam, CO₂, dry chemical or water in form of fog or spray

Flash Point & Method: Lowest ingredient 86 Deg C - T.C.C. Combined value - No data

Upper flammable Limit (% by volume): Not applicable

Lower flammable Limit (% by volume): Not applicable

Hazardous Combustion Products: The by-products expected in incomplete combustion of epoxy resins are mainly phenolics, carbon monoxide and water. The thermal decomposition products of epoxy resins therefore should be treated as potentially hazardous substances.

Special Fire Fighting Procedures and Equipment: Self-contained breathing apparatus and complete protective clothing should be worn in fighting fires involving chemicals.

Sensitivity to Impact: No data available

Sensitivity to Static Discharge: No data available

SECTION 5: Reactivity Data

Conditions Contributing to Instability: Excess heating over long periods of time degrades the resin. Fire conditions increase viscosity and epoxide equivalent weight. May emit toxic vapors at elevated temperatures.

Incompatibility (Materials & Conditions to Avoid): Base, acids, amines and oxidizing materials.

Reactivity, and under what conditions?: Will not occur alone, but masses of more than one pound, or more of the product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.

Hazardous Decomposition Products: None

SECTION 6: Toxicological Properties

NOTE: Health studies have shown that exposure to chemicals pose potential risks which may vary from person to person. Exposure to liquids, vapours, mist or fumes should be minimized.

Route of Entry: Skin contact. Skin absorption. Eye contact. Inhalation. Ingestion.

Effects of Acute Exposure to Product: *Skin* - Corrosive action. *Eye* - Corrosive action. *Inhalation* - Not considered a problem unless heated to a high temperature. *Ingestion* - Unknown.

Effects of Chronic Exposure to Product: Skin sensitization. Absorption may result in damage to liver, kidneys and nervous system.

Exposure Limits: None established.

Irritancy of Product: Yes

Sensitization to Product: Yes

Carcinogenicity: Not listed

Teratogenicity: No data

Reproductive Toxicity Data: No data

Mutagenicity: Negative

Synergistic Products: Not available

SECTION 7: Preventative Measures

IFC MSDS - G2-A - con't

Personal Protective Equipment:

Gloves - Vinyl, latex or rubber. Barrier cream is recommended on exposed skin.

Respirator - None needed if ventilation is sufficient. NIOSH approved respirator for organic vapours if not.

Eye - If contact is possible (ie: mechanical mixing, injecting or applications above eye level), use safety glasses with side shields.

Clothing & Footwear - Tyvek or other impervious overalls. Rubber boots.

Engineering Controls - Effective general ventilation.

Leak & Spill Procedures - Remove unauthorized personnel from area. Contain spill. Prevent liquid from entering sewers, waterways or low areas. Recover free liquid. Use absorbent material (ie: Sorb-all, sand). Recover contaminated material and place in suitable containers for treatment or disposal.

Waste Disposal - Observe all Federal, Provincial, State and local laws concerning health and environment. Send to licensed recycler or incinerate in approved incinerator.

Handling Procedures & Equipment - Avoid contact with eyes, skin and clothing. Keep containers tightly closed. Do not consume food, drink or tobacco in work or material storage areas. Use caution and personal cleanliness to avoid contact. Avoid breathing vapours of heated material. Use paper covering, absorbent wipes and suitable disposal containers in work area. KEEP OUT OF REACH OF CHILDREN.

Storage Requirements: Do not freeze.

Special Shipping Information - None. Not TDG regulated.

SECTION 8: First Aid Measures

Specific Measures:

Skin - Flush affected area with soap and water for at least 15 minutes. Wash clothing before re-use. Discard contaminated leather articles.

Eyes - Irrigate immediately and thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention.

Ingestion - Dilute with 1-2 glasses of milk or water. Consult physician or local poison control center if ill effects develop.

Inhalation - Remove to fresh air if ill effects develop. Consult physician if symptoms persist.

SECTION 9: Preparation Information

Prepared by: Harold Peters

Preparation Date: 07/17/00

Phone Number: 1-800-778-0833

The information contained herein is based on data that we believe to be accurate. No warranty, either expressed or implied, is made. This information is offered solely for your consideration, interpretation and information.

G2-A - Pg 3 of 3

**INDUSTRIAL
FORMULATORS
OF CANADA LTD**

MATERIAL SAFETY DATA SHEET

G-2 Epoxy Adhesive - Part B (Hardener)

SECTION 1: Product Identification

PRODUCT NAME: G-2 Epoxy Adhesive Hardener - Part B
PRODUCT USE: Epoxy Hardener
MANUFACTURER NAME: Industrial Formulators of Canada Ltd.
ADDRESS & PHONE #: 3824 William Street, Burnaby, B.C. V5C 3H9
 Ph: (604) 294-6315/Fax: (604) 294-8052
T.D.G. CLASSIFICATION: Not regulated
UN NUMBER: Not applicable
PACKING GROUP: Not applicable
WHMIS CLASSIFICATION: CAUTION. D2B Other toxic effects. Irritant/skin sensitizer

SECTION 2: Hazardous Ingredients

<u>Hazardous Ingredients</u>	<u>%</u>	<u>CAS Number</u>	<u>LD/50</u>	<u>LC/50</u>
			<u>(Specify Species & Route)</u>	
Polyamide Resin	>89 +/-5%	68410231	>16mg/KG Oral Rat	Not available
Triethylenetetramine	11 +/-5%	00112243	Not available	Not available

SECTION 3: Physical Data

Physical State: Viscous liquid.
Odour & Appearance: Amber colour. Ammoniacal odour
Odour Threshold: Not available
Vapour Pressure (MMHG): Not available
Vapour Density (Air=1): Not available
Solubility in Water: Moderate
Specific Gravity: 0.97
PH: Not available
Evaporation Rate: Not available
Boiling Point: Not available
Freezing Point: Not available
Coefficient of Water/Oil Dist: Not available

Section 4: Fire & Explosion Data

IFC MSDS - G2-B - con't

Flammability: Not flammable

Extinguishing Media: Foam, dry chemical, CO₂ or water in form of fog or spray

Flash Point & Method: Cleveland Open cup

Upper flammable Limit (% by volume): Not applicable

Lower flammable Limit (% by volume): Not applicable

Hazardous Combustion Products: Oxides of nitrogen. Oxides of carbon (CO, CO₂)

Special Fire Fighting Procedures and Equipment: Self-contained breathing apparatus and complete protective clothing should be worn in fighting fires involving chemicals.

Sensitivity to Impact: No data available

Sensitivity to Static Discharge: No data available

SECTION 5: Reactivity Data

Conditions Contributing to Instability: Stable under normal conditions.

Incompatibility (Materials & Conditions to Avoid): Strong oxidizing agents

Reactivity, and under what conditions?: Will not occur alone, but masses of more than 1 pound or more of the product plus an epoxy resin will cause irreversible polymerization with considerable heat build-up.

Hazardous Decomposition Products: Oxides of carbon (CO, CO₂) at high temperatures. Oxides of nitrogen.

SECTION 6: Toxicological Properties

NOTE: Health studies have shown that exposure to chemicals pose potential risks which may vary from person to person. Exposure to liquids, vapours, mist or fumes should be minimized.

Route of Entry: Skin contact. Skin absorption. Eye contact. Inhalation. Ingestion.

Effects of Acute Exposure to Product: *Skin* - Minor irritation or sensitization from prolonged or repeated contact. *Eye* - Severe irritation. *Inhalation* - Vapours may irritate mucous membrane. *Ingestion* - Oral toxicity unknown.

Effects of Chronic Exposure to Product: Skin sensitization.

Exposure Limits: None established.

Irritancy of Product: Skin irritation, 1.2/8.0, rabbit. Eye irritation, 105/110, rabbit.

Sensitization to Product: None known.

Carcinogenicity: Not indicated.

Teratogenicity: Not indicated.

Reproductive Toxicity Data: Not indicated.

Mutagenicity: Polyethylene amines are suspected mutagens.

Synergistic Products: Not applicable.

SECTION 7: Preventative Measures

IFC MSDS - G2-B - cont

Personal Protective Equipment:

Gloves - Vinyl, latex or rubber. Barrier cream is recommended on exposed skin.

Respirator - NIOSH approved respirator for organic vapours if area is not well ventilated.

Eye - If contact is possible (ie: mechanical mixing, injecting or applications above eye level, use safety glasses with side shields

Clothing & Footwear - Tyvek or other impervious overalls or rubber apron. Rubber boots.

Engineering Controls - Effective general ventilation.

Leak & Spill Procedures Stop leak if safe to do so. Clean up spills immediately. For large spills, dike area to prevent spreading. Shovel or dump to drum or salvage tank. Absorb residual material with sand, or other absorbent material. For small spills; Wipe up or absorb with sand or other absorbant material. Put in appropriate labelled container for disposal. Flush areas with dilute (5%) acetic acid. Spilled material and water rinses are classified as chemical waste, and must be disposed of in accordance with local, provincial and federal regulations. Wear edequate protective clothing and equipment.

Waste Disposal - Observe all Federal, Provincial, State and local laws concerning health and environment. Send to liscenced recycler or incinerate in approved incinerator.

Handling Procedures & Equipment - Avoid contact with eyes, skin and clothing. Avoid breathing mist or spray. Keep containers tightly closed. Do not consume food, drink or tobacco in work or material storage areas. Use caution and personal cleanliness to avoid contact. Wash thoroughly after using. Avoid breathing vapours of heated material. Use paper covering, absorbent, wipes and suitable disposal containers in work area. **KEEP OUT OF REACH OF CHILDREN.**

Storage Requirements: Store in a cool, dry place. Do not freeze. Keep containers tightly closed when not in use.

Special Shipping Information - None. Not TDG regulated.

SECTION 8: First Aid Measures

Specific Measures:

Skin - Flush affected area with soap and water for at least 15 minutes. Wash clothing before re-use. Discard contaminated leather articles.

Eyes - Irrigate immediately with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention.

Ingestion - Dilute with 1-2 glasses of milk or water. Consult physician or local poison control center.

Inhalation - Remove to fresh air if ill effects develop. Consult physician if symptoms persist.

SECTION 9: Preparation Information

Prepared by: Harold Peters

Preparation Date: 07/17/00

Phone Number: 1-800-778-0833 (in Canada & US)

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G2-B - Pg 3 of 3