

STRUCTURAL EPOXY ADHESIVE

9200-PART A

Safety Data Sheet

Section 1: Identification**Product Identifier and Other Means of Identification****Product Name:** Structural Epoxy Adhesive**SDS Code:** 9200-Part A**Related Part #** 9200-25ML, 9200-50ML**Recommended Use and Restriction on Use****Use:** Epoxy adhesive resin for use with hardeners**Uses Advised Against:** Not for use as a spray coating**Details of Manufacturer or Importer****Manufacturer**MG Chemicals
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Burlington, Ontario L7L 5R6
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USA or CANADA: Call CHEMTREC ☎: **+1-800-424-9300****For emergencies involving dangerous goods;** Collect 24/7
CANADA: Call CANUTEC ☎: **+1-613-996-6666** or ***666** on cellular phones

STRUCTURAL EPOXY ADHESIVE

9200-PART A

Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Sensitization	Skin sensitizer	1	Warning	Exclamation
Eye Irritation		2	Warning	Exclamation
Skin Irritation		2	Warning	Exclamation
Environmental Hazard	Chronic Aqua. Tox.	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	WARNING
Pictograms	Hazard Statements
	H319: Causes serious eye irritation H315: Causes skin irritation H317: May cause an allergic skin reaction
	H411: Toxic to aquatic life with long lasting effects
Prevention	Precautionary Statements
P102	Keep out of reach of children.
P261	Avoid breathing fumes/mist/vapors.
P280	Wear protective gloves/eye protection/face protection.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.

Section continued on the next page

STRUCTURAL EPOXY ADHESIVE**9200-PART A***Continued...*

Response	Precautionary Statements
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P391	Collect spillage.
Storage	Precautionary Statements
none	none
Disposal	Precautionary Statements
P501	Dispose of contents/container in accordance to local/regional/international regulations.

Hazards Not Otherwise Classified

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
None	None	None	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
28064-14-4	phenol, polymer with formaldehyde, glycidyl ether	46%
25068-38-6	bisphenol-A epoxy resin (reaction product) ^{a)}	32%
14807-96-6	talc (non-asbestos fiber)	17%
60506-81-2	dipentaerythritol pentaacrylate	2%

a) Average molecular weight of ≤ 700

STRUCTURAL EPOXY ADHESIVE**9200-PART A****Section 4: First-Aid Measures**

<i>Exposure Condition</i>	<i>GHS Code/Symptoms/Precautionary Statements</i>
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	<i>redness, irritation, pain</i>
Response	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF ON SKIN	P302 + P352, P333 + P313, P362 + P364
Immediate or Delayed Symptoms	<i>redness, irritation, dry skin, allergic contact dermatitis</i>
Response	Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.
IF INHALED	P304 + P340
Immediate Symptoms	<i>cough, irritation of the respiratory track</i>
Response	Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED	P301 + P330, P331
Immediate Symptoms	<i>abdominal discomfort, nausea, vomiting</i>
Response	Rinse mouth. Do NOT induce vomiting.

STRUCTURAL EPOXY ADHESIVE**9200-PART A****Section 5: Fire-Fighting Measures**

Extinguishing Media	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
Specific Hazards	Not flammable or combustible, but burns if involved in a fire. Produces irritating smoke of unknown toxicity in fires. Prevent fire-fighting wash from entering waterway or sewer system.
Combustion Products	Produces carbon oxides (CO,CO ₂) and toxic fumes.
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 the fumes/mist/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	Contain with inert and non-flammable absorbent such as soil, sand, or vermiculite.
Cleaning Methods	Collect liquid in a sealable, chemical-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wash residue with a paper towel wetted with alcohol, ethyl lactate, or another suitable organic solvent; and place dirty towels in container. Use soap and water to remove the last traces of residue.
Disposal Methods	Dispose of spill waste according to Section 13.

STRUCTURAL EPOXY ADHESIVE**9200-PART A****Section 7: Handling and Storage****Prevention**

Keep out of reach of children.

Avoid breathing fumes/mist/vapors or contact with skin or eyes.

Avoid release to the environment.

Handling

Wear protective gloves/clothing/eye protection.

Take off contaminated clothing and wash it before reuse.

Contaminated work clothing should not be allowed out of the workplace.

Wash hands thoroughly after handling.

Collect spillage.

Storage

Store in a well-ventilated area.

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)
talc (without asbestos fibers)	ACGIH	2 mg/m ³	Not established
	U.S.A. OSHA PEL	20 mppcf ^{a)}	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	3 mg/m ³	Not established

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from by RTECS² database 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.

a) Millions of particles per cubic foot air, based on impinge samples counted by light-field technique.

STRUCTURAL EPOXY ADHESIVE**9200-PART A****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.

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.

STRUCTURAL EPOXY ADHESIVE**9200-PART A****Section 9: Physical and Chemical Properties**

Physical State	Liquid	Lower Flammability Limit	Not available
Appearance	Light grey	Upper Flammability Limit	Not available
Odor	Mild	Vapor Pressure @20 °C	Not available
Odor Threshold	Not available	Vapor Density	Not available
pH	Not available	Specific Gravity @25 °C	1.3
Freezing/Melting Point	Not available	Solubility in Water	Negligible
Boiling Point ^{a)}	≥150 °C [≥302 °F]	Partition Coefficient	Not available
Flash Point ^{b)}	>113 °C [>235 °F]	Auto-ignition Temperature	Not available
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability (solid, gas)	Not available	Viscosity @25 °C	>20.5 mm ² /s

a) Component with the lowest value—bisphenol-A epoxy resin (reaction product)

b) Component with the lowest value—dipentaerythritol pentaacrylate

Section 10: Stability and Reactivity

Reactivity	Reacts exothermically with amines.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid ignition sources, open flames, and incompatible substances.
Incompatibilities	Strong oxidizing agents, strong acids, strong bases, amines
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

STRUCTURAL EPOXY ADHESIVE**9200-PART A****Section 11: Toxicological Information****Routes of Exposure**

Skin Contact, Eye Contact, Inhalation, and Ingestion

Symptoms Summary

Eyes	May cause redness, irritation, or pain.
Skin	May cause skin redness, irritation, dry skin, or allergic contact dermatitis.
Inhalation	May cause cough and irritation of the respiratory track.
Ingestion	May cause abdominal discomfort, nausea, and vomiting.
Chronic	Prolonged and repeated exposure may lead to skin sensitization.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
phenol, polymer with formaldehyde, glycidyl ether	4 000 mg/kg Rabbit ^{a)}	Not available	6 000 mg/kg Rabbit ^{a)}
reaction products: bisphenol-A-(epichlorohydrin) and epoxy resin ^{b)}	11 400 mg/kg Rat	Not established	Not established
talc (non-asbestos fiber)	Not available	Not available	Not available
dipentaerythritol pentaacrylate	Not available	Not available	Not available

Note: Toxicity data from the RTECS² and ECHA were consulted. The data from supplier (M)SDS were also consulted.

a) Supplier MSDS

b) Referred to as bisphenol-A epoxy resin (reaction product)

Other Toxicological Effects

Skin corrosion/irritation	Based on component data, the mixture is a skin irritant.
Serious eye damage/irritation	Based on component data, the mixture causes serious eye irritation.
Sensitization (allergic reactions)	Based on component data, the mixture is a skin sensitizer based on animal studies.

Section continued on the next page

STRUCTURAL EPOXY ADHESIVE**9200-PART A****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

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

STOT-repeated exposure

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

Aspiration hazardBased on available data, the classification criteria are not met. There is no category 1 components, and the kinematic viscosity is $>20.5 \text{ mm}^2/\text{s}$ 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.

In Europe, similar epoxy resin mixtures with CAS# 25068-38-6 and 28064-14-4 have an average molecular weight of less than 700 are generally classified as chronic category 2 marine pollutant due to LC50 96 h of $>1 \text{ mg/L}$ but $\leq 10 \text{ mg/L}$.

Based on available data, talc and dipentaerythritol pentaacrylate are not classified as environmental hazards according to GHS criteria.

Acute Ecotoxicity

Category 2

Toxic to aquatic life

Chronic Ecotoxicity

Category 2

Toxic to aquatic life with long lasting effects

Avoid release to the environment. Collect spillage.

Section continued on the next page

STRUCTURAL EPOXY ADHESIVE**9200-PART A****Biodegradability**

Not available

Bioaccumulation

Not available

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 under 450 L

NOT REGULATED in TDG
per Special Provisions 99

Sizes 5 L and under

NOT REGULATED in 49 CFR
per exception 171.4 (c)(2)*FOR REFERENCE ONLY***UN number:** UN3082**Shipping Name:** ENVIRONMENTALLY
HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(silver particles <1 mm)**Class:** 9**Packing Group:** III**Marine Pollutant:** Yes

Special Provision 99 (2): These Regulations, except for Part 1 (Coming into Force, Repeal, Interpretation, General Provisions and Special Cases) and Part 2 (Classification), do not apply to the handling, offering for transport or transporting of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no accidental release of the dangerous goods that could endanger public safety.

Section continued on the next page

STRUCTURAL EPOXY ADHESIVE**9200-PART A****Air****Refer to ICAO-IATA regulations.**

Sizes 5 L and under: Cat. No. 9200-25ML, 9200-50ML

NOT REGULATED

Not Restricted, as per Special Provisions A197

Special Provision A197: These substances when transported in single or combination packagings containing net quantity per single or inner packaging of less than 5 L or less for liquids or having a net mass of 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packagings meet the general provisions 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.

Sea**Refer to IMDG regulations.**

Sizes 5 L and under: Cat. No. 9200-25ML, 9200-50ML

NOT REGULATED

per 2.10.2.7

2.10.2.7: Marine pollutants packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provision of this Code relevant to marine pollutants provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8. In the case of marine pollutants also meeting the criteria for inclusion in another hazard class, all provisions of this Code relevant to any additional hazards continue to apply.

STRUCTURAL EPOXY ADHESIVE**9200-PART A****Section 15: Regulatory Information****Canada****Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)**

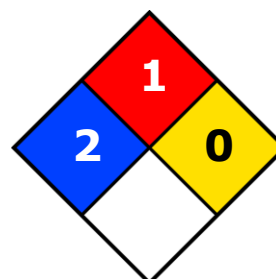
All hazardous ingredients are listed on the DSL.

Industry and Science Canada

MG Labels products intended for the workplace to conform to WHMIS labeling regulations. Product identification, net quantity declaration, minimum printing type size heights, and packaging of this product are in compliance.

USA**Other Classifications****HMIS[®] RATING**

HEALTH:	* 2
FLAMMABILITY:	1
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	

NFPA[®] 704 CODES

Approximate HMIS and NFPA Risk Ratings Legend:

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

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

This product 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.

Section continued on the next page

STRUCTURAL EPOXY ADHESIVE**9200-PART A****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 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, 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	23 February 2016
Supersedes	Not applicable
Reason for Changes:	New product classified in compliance with WHMIS 2015 and HCS 2012.

Reference

- 1) ACGIH 2013 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 (2013).
- 2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

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STRUCTURAL EPOXY ADHESIVE**9200-PART A****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.

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Disclaimer This material 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.

STRUCTURAL EPOXY ADHESIVE**9200-PART B**

Safety Data Sheet

Section 1: Identification**Product Identifier and Other Means of Identification****Product Name:** Structural Epoxy Adhesive**SDS Code:** 9200-Part B**Related Part #** 9200-25ML, 9200-50ML**Recommended Use and Restriction on Use****Use:** Epoxy adhesive hardener for use with resins**Uses Advised Against:** Not for use as a spray coating**Details of Manufacturer or Importer****Manufacturer**MG Chemicals
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Burlington, Ontario L7L 5R6
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FAX +1-905-331-2682
E-MAIL info@mgchemicals.com**E-MAIL** (Competent Person): sds@mgchemicals.com**Emergency Phone Number****For hazardous material incidents ONLY**—leaks, spills, fires, exposures or accidents
USA or CANADA: Call CHEMTREC ☎: **+1-800-424-9300****For emergencies involving dangerous goods;** Collect 24/7
CANADA: Call CANUTEC ☎: **+1-613-996-6666** or ***666** on cellular phones

STRUCTURAL EPOXY ADHESIVE**9200-PART B****Section 2: Hazard(s) Identification****Classification of Hazardous Chemical****GHS Categories**

Criteria		Category	Signal Word	Pictograms
Serious Eye Damage		1	Danger	Corrosion
Skin Corrosion		1	Danger	Corrosion
Sensitization	Skin	1	Warning	Exclamation
Environmental Hazard	Chronic Aqua. Tox.	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
	H314: Causes severe skin burns and eye damage
	H317: May cause an allergic skin reaction
	H411: Toxic to aquatic life with long lasting effects

Section continued on the next page

STRUCTURAL EPOXY ADHESIVE**9200-PART B***Continued...*

Prevention	Precautionary Statements
P102	Keep out of reach of children.
P260	Do not breathe fumes/mist/vapors.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P264	Wash hands thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
Response	Precautionary Statements
P310	For all routes of exposure: Immediately call a POISON CENTER/doctor.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + P330 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Wash with plenty of water [or shower].
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P391	Collect spillage.
Storage	Precautionary Statements
P405	Store locked up.
Disposal	Precautionary Statements
P501	Dispose of contents/container in accordance to local/regional/international regulations.

Hazards Not Otherwise Classified

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
None	None	None	None

STRUCTURAL EPOXY ADHESIVE**9200-PART B****Section 3: Composition/Information on Ingredients**

CAS #	Chemical Name	%(weight)
68683-29-4	ATBN polymer	32%
7727-43-7	barium sulfate	30%
68410-23-1	fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	24%
68082-29-1	fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine	7%
112-24-3	triethylenetetramine	3%
140-31-8	2-piperazin-1-ylethylamine (AEP)	2%

Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
IF IN EYES	P305 + P351 + P338, P310
Immediate Symptoms	<i>redness, severe irritation, pain, burns</i>
Response	Rinse cautiously with water for 30 minutes or more. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
IF ON SKIN (or hair)	P301 + P330 + P352, P310, P333 + P313, P363
Immediate or Delayed Symptoms	<i>redness, irritation, rash (allergic contact dermatitis), pain, burns, blistering</i>
Response	Take off immediately all contaminated clothing. Wash with plenty of water [shower]. Immediately call a POISON CENTER/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Section continued on the next page

STRUCTURAL EPOXY ADHESIVE**9200-PART B***Continued...*

IF SWALLOWED	P301 + P330 + P331, P310
Immediate Symptoms	<i>irritation, abdominal pain, nausea, vomiting, burns to the digestive tract</i>
Response	Rinse mouth. Do not induce vomiting. Immediately call a POISON CENTER/doctor.
IF INHALED	P304 + P340, P310
Immediate Symptoms	<i>cough, irritation of the respiratory track, burning sensation</i>
Delayed Symptoms	<i>asthma, difficulty breathing</i>
Response	Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

Advice to Physicians

In case of exposure to nitrogen oxides (NO_x) combustion products or triethylenetetramine vapors during a fire, the symptoms may be delayed. For significant exposures, the exposed person should be kept under medical surveillance for 48 hours.

Section 5: Fire-Fighting Measures

Extinguishing Media	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
Specific Hazards	Not flammable or combustible, but burns if involved in a fire. Produces irritating and toxic fumes in fires or in contact with hot surfaces. Inhalation of toxic smoke during fire may have delayed effects. Exposed person may need to be put under surveillance for 48 h. Toxic for aquatic environment: Prevent fire-fighting wash from entering waterway or sewer system.
Combustion Products	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.

STRUCTURAL EPOXY ADHESIVE**9200-PART B****Section 6: Accidental Release Measures**

Personal Protection	Use personal protection recommended in Section 8.
Precautions for Response	Do not breathe fumes/mist/vapors.
Environmental Precautions	Avoid releasing to the environment. Prevent spill from entering drains and waterways. Do not flush to sewer.
Containment Methods	Contain with inert and non-flammable absorbent (such as soil, sand, vermiculite).
Cleaning Methods	Collect liquid in a sealable container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wipe residue with a paper towel wetted with a suitable organic solvent such as alcohol or ethyl lactate, and place dirty towels in container. Wash spill area with soap and water to remove the last traces of residue.
Disposal Methods	Dispose spill waste according to Section 13.

Section 7: Handling and Storage

Prevention	Keep out of reach of children. Do not breathe fumes/mist/vapors. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment.
Handling	Wear protective gloves/protective clothing/eye protection/face protection. Take off contaminated clothing and wash it before reuse. Wash hands thoroughly after handling.
Storage	Collect spillage. Store locked up.

STRUCTURAL EPOXY ADHESIVE**9200-PART B****Section 8: Exposure Controls/Personal Protection****Substances with Occupational Exposure Limit Values**

Chemical Name	Country or Vendor	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
barium sulfate	ACGIH	10 mg/m ³	Not established
	U.S.A. OSHA PEL	15 mg/m ³ (Dust)	Not established
	Canada AB	10 mg/m ³	Not established
	Canada BC	10 mg/m ³ (Dust)	Not established
	Canada ON	10 mg/m ³	Not established
	Canada QC	10 mg/m ³	Not established
triethylenetetramine	ACGIH	Not established	Not established
	U.S.A. OSHA PEL	Not established	Not established
	U.S.A (WEEL)	1 ppm	Not established
	Canada AB	Not established	Not established
	Canada BC	Not established	Not established
	Canada ON	0.5 mg/m ³ (Skin) ^{a)}	Not established
	Canada QC	Not established	Not established

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from by RTECS² database 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.

a) Skin—can be absorbed through the skin.

Engineering Controls**Ventilation**

Keep airborne concentrations below the occupational exposure limits (OEL).

Personal Protective Equipment**Eye protection**

Wear appropriate protective eyeglasses or chemical safety goggles.

RECOMMENDATION: Use safety glasses with lateral protection (side shields).

Skin Protection

For likely contacts, use of protective butyl rubber, neoprene, or other chemically resistant gloves.

For incidental contacts, use nitrile or other chemically resistant gloves.

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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.

If the product is heated or worker has a known allergic reaction, consider using a full mask with organic vapor cartridge or with an independent air supply.

RECOMMENDATION: Consult your local safety supply store to ensure your respirator has a NIOSH (U.S.) approved 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. 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	Not available
Appearance	Amber	Upper Flammability Limit	Not available
Odor	Ammonia-like	Vapor Pressure @20 °C ^{a)}	<0.001 kPa [<0.01 mmHg]
Odor Threshold	Not available	Vapor Density	Not available
pH	Not available	Specific Gravity @25 °C	1.18
Freezing/Melting Point	Not available	Solubility in Water	Slightly soluble
Boiling Point	Not available	Partition Coefficient	Not available
Flash Point ^{a)}	>122 °C [>252 °F]	Auto-ignition Temperature	Not available
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability (solid, gas)	Not available	Viscosity @25 °C	>20.5 mm ² /s

a) Literature value for triethylenetetramine

STRUCTURAL EPOXY ADHESIVE**9200-PART B****Section 10: Stability and Reactivity**

Reactivity	Reacts exothermically with ketones, halogenated hydrocarbons, cyanides, nitriles, and epoxides. May attack metals such as aluminum, zinc, copper, and their alloys.
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Ignition sources, open flames, and incompatible substances
Incompatibilities	Strong 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**

Eye Contact, Skin Contact, Inhalation, and Ingestion

Symptoms Summary

Eyes	May causes redness, severe irritation, pain, or burns.
Skin	May cause redness, serious skin irritation, allergic contact dermatitis, and chemical burns. Triethylenetetramine can be absorbed through skin leading to toxic effects. When heated, hot triethylenetetramine vapors may also result in itching of the face with skin redness (erythema) and swelling (edema).
Inhalation	May cause cough, irritation of the respiratory track, or burning sensation.
Ingestion	May cause irritation, abdominal pain, nausea, vomiting, burns to the digestive tract (see inhalation symptoms).
Chronic	Prolonged and repeated exposure to uncured epoxy hardener may lead to skin sensitization.

Section continued on the next page

STRUCTURAL EPOXY ADHESIVE**9200-PART B****Acute Toxicity (Lethal Exposure Concentrations)**

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines	>5 000 mg/kg ^{a)}	>5 000 mg/kg ^{a)}	Not available
fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine	>5 000 mg/kg ^{a)}	>5 000 mg/kg ^{a)}	Not available
triethylenetetramine	2 500 mg/kg Rat	805 mg/kg Rabbit	Not available
2-piperazin-1-ylethylamine (AEP)	2 106 mg/kg Rat	866 mg/kg Rabbit	Not available

Note: Toxicity data from the RTECS² and ECHA were consulted. The data from supplier (M)SDS were also consulted.

a) Supplier MSDS

Other Toxicological Effects

Skin corrosion/irritation	Triethylenetetramine and 2-piperazin-1-ylethylamine causes skin burns.
Serious eye damage/irritation	Triethylenetetramine and 2-piperazin-1-ylethylamine causes severe eye damage.
Respiratory and skin sensitization (allergic reactions)	The epoxy hardener components may cause skin sensitization according to animal studies.
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	Based on available data, the classification criteria are not met.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met. There are no category 1 components, and the kinematic viscosity is >20.5 mm ² /s at 40 °C.

STRUCTURAL EPOXY ADHESIVE**9200-PART B****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 fatty acids, C18-unsatd., dimers, reaction products with polyethylenepolyamines (CAS# 68410-23-1) and fatty acids, C18-unsatd., dimers, polymers with tall-oil fatty acids and triethylenetetramine (CAS# 68082-29-1) were classified as a chronic category 2 environmental toxicant (not readily biodegradable, LC50 range of 1–10 mg/L for fish; EC0 bacterial >10 and ≤100 mg/L).

Literature values for the triethylenetetramine (CAS # 112-24-3) suggest an acute category 3 aquatic toxicity (LC50, IC50, and EC50 values of >100 mg/L for fish and between 10 and 100 mg/L for algae).

Acute Ecotoxicity

Category 2

Toxic to aquatic life

Chronic Ecotoxicity

Category 2

Toxic to aquatic life with long lasting effect

Avoid release to the environment. Collect spillage.

Biodegradability

Not readily biodegradable

Bioaccumulation

Not available

Other Effects

Not available

Section 13: Disposal Information

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

STRUCTURAL EPOXY ADHESIVE
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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

Limited Quantity



Sizes greater than 1 L

UN number: UN2735

Shipping Name: AMINES, LIQUID,
CORROSIVE, N.O.S. *
(containing triethylenetetramine,
dimer fatty acid (C18)poly amido
amine resin)

Class: 8

Packing Group: II

Marine Pollutant: Yes


Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 0.5 L and under

Limited Quantity



Sizes greater than 0.5 L up to 1 L

UN number: UN2735

Shipping Name: AMINES, LIQUID,
CORROSIVE, N.O.S. *
(containing triethylenetetramine,
dimer fatty acid (C18)poly amido
amine resin)

Class: 8

Packing Group: II

Marine Pollutant: Yes



Section continued on the next page

STRUCTURAL EPOXY ADHESIVE
9200-PART B
Sea
Refer to IMDG regulations.
Sizes 1 L and under
Limited Quantity

Sizes greater than 1 L
UN number: UN2735

Shipping Name: AMINES, LIQUID, CORROSIVE, N.O.S. *

(containing triethylenetetramine, dimer fatty acid (C18)poly amido amine resin)

Class: 8

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/NDSL.

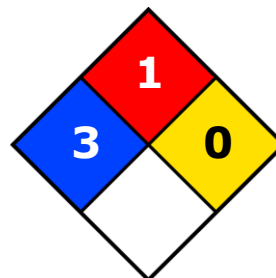
Industry and Science Canada

MG Labels products intended for the workplace to conform to WHMIS labeling regulations. Product identification, net quantity declaration, minimum printing type size heights, and packaging of this product are in compliance.

Section continued on the next page

STRUCTURAL EPOXY ADHESIVE**9200-PART B****USA****Other Classifications****HMIS[®] RATING**

HEALTH:	* 3
FLAMMABILITY:	1
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	

NFPA[®] 704 CODES

Approximate HMIS and NFPA Risk Ratings Legend:

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

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

This product does not contain substances that 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, June 06, 2014 revision, 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, 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.

STRUCTURAL EPOXY ADHESIVE**9200-PART B****Section 16: Other Information**

SDS Prepared by Michel Hachey
Date of Revision 23 February 2016
Supersedes Not applicable
Reason for Changes: New product classified in compliance with WHMIS 2015 and HCS 2012.

Reference

- 1) ACGIH 2013 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 (2013).
- 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
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

Section continued on the next page



STRUCTURAL EPOXY ADHESIVE

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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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