

Section 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Elastochem 500 Part A
Chemical Name: Polymeric MDI
Manufacturer: Elastochem Specialty Chemicals Inc.
37 Easton Road
Brantford, Ontario N3P 1J4
Phone (519) 754-1678 Fax (519) 754-4487
Supplied by: Elastochem Specialty Chemicals Inc.
Emergency Telephone #: Chemtrec Emergency Number: 800-424-9300
Intended use of Product: Component of a Foam Insulation System

Section 2: COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient	% (w/w)	CAS #	Exposure Limit
Diphenylmethane diisocyanate (MDI)	1-5%	026447-40-5	TWA 0.005PPM PEL 0.02PPM
Polymethylene polyphenyl isocyanate	40-70%	009016-87-9	Not available
4'4'-Diphenyl methane diisocyanate	30-60%	101-68-8	TWA 0.005 PPM PEL 0.02 PPM

Consult local authorities for acceptable exposure limits

Section 3: HAZARDS IDENTIFICATION

Routes of Exposure: Inhalation, skin contact, eye contact.

Acute Effects:

Eyes: May cause slight eye irritation

Skin: Prolonged or repeated exposure may cause skin irritation.

Ingestion - May be harmful if swallowed.

Inhalation: Excessive exposure may cause irritation of the upper respiratory tract and lungs.

Chronic Effects: Chronic exposure to MDI may cause respiratory sensitization in susceptible individuals.

See toxicological information (section 11)

Section 4: FIRST AID MEASURES

Skin: Wash area well with soap and water, remove contaminated clothing, seek medical attention if irritation develops.

Eyes: Immediately flush thoroughly with water for at least 15 minutes. Get prompt medical attention.

Inhalation: Remove to fresh air; give artificial respiration if not breathing. Get medical attention.

Ingestion: Wash mouth out with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting. Seek medical attention immediately.

Section 5: FIRE FIGHTING MEASURES

Extinguishing Media: Use large amounts of water spray, foam, dry chemical, or CO₂. Water spray to cool fire-exposed containers.
Fire Fighting Procedures: Wear self-contained breathing apparatus. Cool exposed containers with water.
Special Procedures: None
Flash Point (°C): 199 °C
Lower Explosion Limit: Not available
Upper Explosion Limit: Not available
Auto Ignition Temperature: Not available
Hazardous Combustion Products: Oxides of carbon and nitrogen.
Sensitivity to mechanical impact: No
Sensitivity to static discharge: No

Section 6: ACCIDENTAL RELEASE MEASURES

Spill Procedure: Evacuate the area of all unnecessary personnel. Remove all sources of ignition. Ventilate area. Dike the spill to prevent entry into water system. Wear suitable protective equipment listed under preventative measures including respiratory protection.
Use inert absorbent material to clean up spill. Saturate spill with excess neutralizing solution (1% ammonia in water + 10% isopropanol). When reaction is complete shovel into drums.

Section 7: HANDLING AND STORAGE

Handling & Storage: Store at temperature of 16-38°C (60-100°F), away from heat and moisture. Store and handle in a well ventilated area. Wear all personal protective equipment when handling.
Special shipping Information: None

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTIONS

Personal Protection:
Respiratory Protection: Use in adequate ventilation. Spraying increases the risk of hazardous exposure. If material is sprayed, heated or exceeding the exposure limit workers should avoid contact with aerosols through proper engineering controls such as exhaust ventilation and proper protective equipment such as a full face air supplied respirators.
Skin Protection: Wear gloves, boots and long sleeves which are impervious to the material to prevent skin contact.
Eye protection: Chemical safety goggles or glasses with side shields.
Ventilation: Adequate ventilation to maintain levels below exposure guidelines.
Eye wash and safety equipment should be readily available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Odour: Slightly musty odour
Appearance: Brown liquid
Odour threshold: no data
Specific Gravity (H₂O = 1): 1.2 @ 25°C
Freezing Point: <-10 °C
Viscosity: 250 cps @@ 25°C
Boiling Pt: 208°C
Vapor Pressure (mm Hg) . . .: 1 X 10⁻⁵ mm Hg@25°C
Percent Volatile by vol (%): Not applicable
Vapor Density (Air = 1) . . : 8.5 (MDI)
Evaporation Rate (BuAc = 1): Not available
Solubility in Water (%) . . : Not soluble, reacts slowly with water to liberate CO₂ gas

Section 10: STABILITY AND REACTIVITY

Chemical Stability: Stable at room temperature and normal processing conditions.
Conditions to avoid: High temperature, sparks and open flames.
Incompatibility (Materials to avoid): Water, amines, strong bases, alcohols, and metal compounds.
Hazardous Decomposition products: Thermal decomposition may produce MDI vapour and mist, traces of hydrogen cyanide and oxides of nitrogen and carbon.
Hazardous Polymerization: Polymerization Will not spontaneously occur under normal conditions. Avoid incompatible products below.

Section 11: TOXICOLOGICAL INFORMATION

LD50: oral-rat >10 000 mg/Kg
LD50: Dermal- rabbit >6 200 mg/Kg
Carcinogenicity: Not listed by IARC, NTP or regulated as a carcinogen by OSHA.
Teratogenicity/Reproductive effects: Not available
Mutagenicity: Not available
Name of toxicologically synergistic products: Not available

Section 12: ECOLOGICAL INFORMATION

Biodegradability: 0% Exposure Time: 28 days
Bioaccumulation: Rainbow trout. Exposure Time: 112 days, <BCF. Does not bioaccumulate.
Fish Toxicity: Zebra Fish, LC0: >1000mg/l, 96 hours.
Killifish, LC0: >3000mg/l, 96 hours.
Daphnia Magna, EC50: >1000mg/l, 24 hours

Section 13: DISPOSAL CONSIDERATIONS

Disposal Procedure:

Comply with Federal, provincial, and local regulations on reporting releases.

Consult your local or regional authorities.

Section 14: TRANSPORT INFORMATION

TDG (TRANSPORATION OF DANGEROUS GOODS) CLASSIFICATION: Not Regulated

Class: Not Regulated

Section 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION: D2A, D2B

Domestic Substance List (DSL): Yes

Section 16: OTHER INFORMATION

References: Canadian Guide of the Law and Regulations of the Transportation of Dangerous Goods. Controlled products regulations. Manufacturer's Material Safety Data Sheet. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Other special considerations: No additional remark

Regulatory Affairs Department: 519-754-1678

DATE: June 6, 2017

REVISION 3

PREPARED BY: Regulatory Affairs group,
Elastochem Specialty Chemicals Inc.

Section 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Elastochem 500 Part B
Chemical Name: Polymeric Resin
Manufacturer: Elastochem Specialty Chemicals Inc.
37 Easton Road
Brantford, Ontario N3P 1J4
Phone (519) 754-1678 Fax (519) 754-4487
Supplied by: Elastochem Specialty Chemicals Inc.
Emergency Telephone #: Chemtrec Emergency Number: 800-424-9300
Intended use of Product: Component of a Foam Insulation System

Section 2: COMPOSITION, INFORMATION ON INGREDIENTS

Ingredient	% (w/W)	CAS #	Exposure Limit	LD50/LC50
Dimethylamino ethoxyethanol	1-5%	1704-62-7	Not available	2337mg/kg (rat-oral)/ 1000mg/l 4hr (rat-inhalation)
1,3-Propane diamine N'-(3-(dimethylamino) propyl)- N,N-dimethyl	1-5%	6711-48-4	Not available	>1.25g/kg (rat-oral) / Not determined

Consult local authorities for acceptable exposure limits

Section 3: HAZARDS IDENTIFICATION

Routes of Exposure: Inhalation, skin contact, eye contact.

Acute Effects:

Skin Contact- May cause severe skin irritation.

Eye Contact - May cause severe eye irritation.

Ingestion - May be harmful if swallowed.

Inhalation- May irritate the respiratory tract and lungs, cause sore throat, and tightness of chest.

Chronic Effects: May cause severe skin and eye irritation and adverse respiratory effects.

See toxicological information (section 11)

Section 4: FIRST AID MEASURES

Skin: Wash area with soap and water, seek medical attention if irritation develops.

Eyes: Immediately flush thoroughly with water for at least 15 minutes. Get prompt medical attention.

Inhalation: Remove victim to fresh air; give artificial respiration if not breathing. Seek medical attention.

Ingestion: Wash mouth out with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting. Seek medical attention immediately.

Section 5: FIRE FIGHTING MEASURES

Extinguishing Media : Use water spray, foam, dry chemical, or CO₂. Water spray to cool fire-exposed containers.

Fire Fighting Procedures: Wear self-contained breathing apparatus is required in confined spaces. Cool exposed containers with water.

Flash Point (°C): > 141 (PMCC)

Lower Explosion Limit: Not available

Upper Explosion Limit: Not available

Auto Ignition Temperature: Not available

Hazardous Combustion Products: Oxides of carbon and nitrogen.

Sensitivity to Mechanical Impact: No

Sensitivity to Static Discharge: No

Section 6: ACCIDENTAL RELEASE MEASURES

Spill Procedure: Evacuate the area of all unnecessary personnel. Ventilate area. Dike the spill to prevent entry into water system. Wear suitable protective equipment listed under preventative measures including respiratory protection. Use inert absorbent material to clean up spill.

Section 7: HANDLING AND STORAGE

Handling & Storage: Store away from heat and moisture. Store and handle in a well ventilated area. Wear all personal protective equipment when handling.

Special shipping Information: None

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTIONS

Personal Protection:

Respiratory Protection: Use in adequate ventilation. Spraying increases the risk of hazardous exposure. If material is sprayed, heated or exceeding the exposure limit workers should avoid contact with aerosols through proper engineering controls such as exhaust ventilation and proper protective equipment such as a full face air supplied respirators. For large spills or fires a self-contained breathing apparatus is recommended.

Skin Protection: Wear neoprene or butyl rubber gloves, boots and long sleeves are recommended.

Eye protection: Chemical safety goggles or glasses with side shields.

Ventilation: Adequate ventilation to maintain levels below exposure guidelines.

Eye wash and safety equipment should be readily available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Odour: Light ammonia
Appearance: Milky white liquid
Odour threshold: no data
Specific Gravity (H₂O = 1): 1.1 @ 25°C
Freezing Point: 0°C
Viscosity: 1000 cps @20°C
Boiling Pt: 212°C
Vapor Pressure (mm Hg) : Not available
Percent Volatile by vol (%): 20-30% (H₂O)
Vapor Density (Air = 1) . . : Not available
Evaporation Rate (BuAc = 1): Not available
Solubility in Water (%) : Miscible

Section 10: STABILITY AND REACTIVITY

Chemical Stability: Stable at room temperature and normal processing conditions.
Conditions to avoid: High temperature, sparks and open flames.
Incompatibility (Materials to avoid): Reacts with strong acids and isocyanates.
Hazardous Decomposition products: oxides of nitrogen and carbon.
Hazardous Polymerization: Polymerization may occur with contact with isocyanates.

Section 11: TOXICOLOGICAL INFORMATION

LD50: oral-rat: 1360 mg/Kg
LD50: Dermal-rabbit: 260 mg/Kg
Carcinogenicity: Not available
Teratogenicity/Reproductive effects: Not available
Mutagenicity: Not available
Name of toxicologically synergistic products: Not available

Section 12: ECOLOGICAL INFORMATION

No ecological information available.

Section 13: DISPOSAL CONSIDERATIONS

Disposal Procedure:
Comply with Federal, provincial, and local regulations on reporting releases.
Consult your local or regional authorities.

Section 14: TRANSPORT INFORMATION

TDG (TRANSPORTATION OF DANGEROUS GOODS) CLASSIFICATION: Not Regulated
Class: Not Regulated

Section 15: REGULATORY INFORMATION

WHMIS CLASSIFICATION: D2B
Domestic Substance List (DSL): No

Section 16: OTHER INFORMATION

References: Canadian Guide of the Law and Regulations of the Transportation of Dangerous Goods. Controlled products regulations. Manufacturer's Material Safety Data Sheet. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Other special considerations: No additional remark

Regulatory Affairs Department: 519-754-1678

DATE: June 6, 2017

REVISION 3

PREPARED BY: Regulatory Affairs group,
Elastochem Specialty Chemicals Inc.