

SAFETY DATA SHEET – B SIDE

SECTION 1: PRODUCT & COMPANY INFORMATION

MANUFACTURER OF CHEMICAL COMPONENTS

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PRODUCT

Trade Name: Geolok B-side
Chemical Name: Polyurethane Resin / B-side
Chemical Family: Polyurethane Resin Blend
Product Use: Component of a Polyurethane System

EMERGENCY TELEPHONE: 1-877-DEMILEC (336-4532) or CHEMTREC 800-424-9300 or CANUTEC 613-996-6666

SECTION 2: HAZARDS IDENTIFICATION

Physical State / Color / Odor Liquid / Green-Blue / Ester



EMERGENCY OVERVIEW / WARNING

OSHA / HCS Status This material is classified hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).

Physical / Chemical Hazards Acute Health Hazard / Chronic Health Hazard / Fire Hazard
Toxic vapors may be released during burning or thermal decomposition.

Routes of Entry Eye contact, skin contact, inhalation, ingestion.

Eye Contact Product liquids, aerosols or vapors are irritating. Vapors may cause a transient condition known as glaucopsia, resulting in blurred vision and appearance of halos around bright objects.

Skin Contact May cause irritation and dermatitis.

Ingestion May cause irritation to throat, esophagus and stomach (nausea, abdominal pains, vomiting and diarrhea).
May cause liver and kidney damage.

Inhalation May cause headaches, dizziness, drowsiness and other central nervous system effects.

Carcinogenicity The components of this product are not listed by NTP, IARC or regulated as a carcinogen by OSHA.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

INGREDIENTS	CAS #	%
Polyol Blend	Trade secret	30 – 60
Tris-iso-chloropropyl Phosphate	13674-84-5	10 – 30
1,1,1,3,3-Pentafluorobutane	406-58-6	10 – 30
1,1,1,2,3,3,3-Heptafluoropropane	431-89-0	1 – 5
Tertiary Amine Catalyst	Trade secret	1 – 5

SECTION 4: FIRST AID MEASURES

Eye Contact	Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. Obtain medical attention immediately.
Skin Contact	In case of contact, immediately remove contaminated clothing and shoes. Immediately flush skin with plenty of soap and cold water. Do not use hot water. Wash contaminated clothing and shoes thoroughly before reuse. For severe exposures, immediately get under safety shower and start rinsing. If irritation develops, obtain medical attention.
Inhalation	Move exposed person to fresh air. Keep person warm and at rest. If not breathing, breathing irregularly, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Obtain medical attention if adverse health effects persist. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband. If thermal decomposition products are inhaled during a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Ingestion	Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water (250 ml). Stop if the exposed person feels sick, as vomiting may be dangerous. Obtain medical attention if symptoms occur. DO NOT induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter lungs. Get immediate medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband.
Protection of First-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
Notes to Physician	Following severe exposure the patient should be kept under medical review for at least 48 hours.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point	> 200°F (93°C)
Auto-Ignition Temperature	N/A
Upper Flammable Limit (% vol.)	N/A
Lower Flammable Limit (% vol.)	N/A
Suitable Extinguishing Media	Dry chemical, carbon dioxide (CO ₂), foam, water spray for large fires.
Hazardous Products of Thermal Decomposition	Combustion products may include carbon monoxide, carbon dioxide, nitrogen oxides, halogenated compounds, traces of ammonia vapors, aldehydes and ketones, low molecular weight organic products.
Special Fire Fighting Procedures	Firefighter should be equipped with self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode to protect against potentially toxic and irritating fumes generated by thermal decomposition or combustion during a fire. They should wear appropriate protective equipment such as PVC boots, gloves, safety helmet and protective clothing. Material supports combustion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid breathing vapors or mist. Provide adequate ventilation. Use suitable protective equipment.
Environmental Precautions	Avoid spreading of spilled material, runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution.
Methods for Cleaning-up	Move containers from spill area. Approach release from upwind. Contain to prevent spread into drains, sewers, water supplies or soil by creating a dike or trench. For minor spills, spread sawdust or other absorbent material over the spill area and allow at least 30 minutes to absorb as much of the remaining product as possible. Shovel into suitable metal containers for waste disposal. Contaminated absorbent material may pose the same hazard as the spilled product. Dispose via a licensed waste disposal contractor. The spill area should then be washed down with soap and warm water to dilute and remove remaining traces of material. Ventilate area to remove the remaining vapors. For major spills, released material may be pumped into containers for disposal. Wear suitable personal protective equipment.

SECTION 7: HANDLING & STORAGE

Storage Temperature	50 – 85°F (10 – 29°C)
Storage Life	6 months
Handling	Do not inhale vapor/spray. Avoid contact with skin and eyes. Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material; keep tightly closed and sealed until ready for use.
Storage	Store in tightly closed containers in a cool, dry and ventilated place away from incompatible materials and food and drink. Store away from ignition sources. Protect containers against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.
Precautions	If contamination with isocyanates is suspected, do not reseal containers. Employee education and training in safe handling of this product are required under the OSHA Hazard Communication Standard.
Packaging Containers	Original container

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION**EXPOSURE LIMIT VALUES**

For Product	N/A	
For Ingredients	WEEL (AIHA) (TWA) – 8 hr	OSHA PEL (TWA) – 8 hr
Polyol Blend	N/A	N/A
Tris-iso-chloropropyl Phosphate	N/A	N/A
1,1,1,3,3-Pentafluorobutane	1000 ppm	N/A
1,1,1,2,3,3,3-Heptafluoropropane	1000 ppm	N/A
Tertiary Amine Catalyst	N/A	N/A

PERSONAL PROTECTIVE EQUIPMENT

Preventive Measures	Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace. Establish a safety zone to keep out nonessential personnel. When spraying outdoors, protect people, cars, etc. against airborne overspray.
Eye Protection	Eye protection is required when directly handling liquid product. Use appropriate chemical goggles, face shields or full-faced respirator. Persons who work with this product should not wear contact lenses.
Skin Protection	Use long-sleeve protective clothing impervious to chemicals, boots and chemical-resistant gloves such as nitrile/butadiene rubber (“nitrile” or “NBR”), butyl rubber, polyvinyl chloride (“PVC” or “vinyl”), polychloroprene (neoprene). Protective gloves and clothing should be worn when handling freshly made polyurethane products to avoid contact with trace residual materials that may be hazardous in contact with skin. Wash hands, forearms and face thoroughly after handling chemical products, before eating, drinking, smoking, using the lavatory and at the end of the working period.
Respiratory Protection	Spraying in open-air well ventilated area: Use a properly fitted full-face air purifying respirator with organic cartridges complying with an approved standard if a risk assessment indicates this is necessary. Spraying in enclosed areas: Fresh air-line respirators or self-contained breathing apparatus should be used in areas with concentrations above the TLV. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Environmental Exposure Controls / Ventilation Requirements	Use local exhaust ventilation to maintain airborne concentrations below the TLV. Ventilation is not required when spraying outdoors. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For guidance on engineering control measures refer to publications such as the ACGIH current edition of “Industrial Ventilation, a Manual of Recommended Practice”.
Additional Protective Measures	Safety showers and eye wash stations should be easily accessible to the work area.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

Appearance	Green/Blue liquid
Odor	Ester
Viscosity @ 77°F (25°C)	170 – 270 cps
Specific Gravity @ 77°F (25°C)	1.20 – 1.22
Flash Point	> 200°F (93°C)
Auto-Ignition Temperature	1076°F (580°C) for blend of 1,1,1,3,3-Pentafluorobutane/1,1,1,2,3,3,3-Heptafluoropropane
Boiling Point	86°F (30°C) for blend of 1,1,1,3,3-Pentafluorobutane/1,1,1,2,3,3,3-Heptafluoropropane
Freezing / Melting Point	N/A
Vapor Pressure @ 77°F (25°C)	9.6 psi
Vapor Density (Air = 1)	6.5 for blend of 1,1,1,3,3-Pentafluorobutane/1,1,1,2,3,3,3-Heptafluoropropane
Solubility in Water	Moderate

SECTION 10: STABILITY & REACTIVITY

Stability	This product is considered stable under normal and anticipated storage and handling conditions.
Conditions to Avoid	Avoid exposure to moisture and high temperatures to protect product quality. Avoid open flame.
Materials to Avoid	Strong oxidizing and reducing agents: strong acids, strong alkalis, alkaline earth metals (aluminum, zinc, copper, etc.), phosphorus and phosphorus-containing compounds. Avoid unintended contact with isocyanates.

Hazardous Polymerization	Will not occur
Hazardous Products of Thermal Decomposition	Combustion products may include carbon monoxide, carbon dioxide, nitrogen oxides, halogenated compounds, traces of ammonia vapors, aldehydes and ketones, low molecular weight organic products.
Decomposition Temperature	N/A

SECTION 11: TOXICOLOGICAL INFORMATION

	Acute Oral Toxicity, LD50 (Rat)	Acute Inhalation Toxicity, LC50 (Rat)	Acute Dermal Toxicity, LD50 (Rabbit)	Repeated Dose Toxicity (Rat)
Polyol Blend	1370 mg/kg	N/A	12,800 mg/kg	N/A
Tris-iso-chloropropyl Phosphate	< 2000 mg/kg	> 4.6 mg/l, aerosol (4 hrs)	> 2000 mg/kg (24 hrs)	90 Days, oral: NOAEL: 36 mg/kg
1,1,1,3,3-Pentafluorobutane	> 2000 mg/kg	> 10,000 ppm (4 hrs)	N/A	N/A
1,1,1,2,3,3,3-Heptafluoropropane	N/A	788,698 ppm (4 hrs)	N/A	N/A
Tertiary Amine Catalyst	1630 mg/kg	290 ppm (6 hrs)	280 mg/kg	14 days, inhalation: 12 ppm

Tertiary Amine Catalyst can cause severe eye and skin irritation; prolonged contact may result in chemical burns and permanent damage of liver, stomach and lungs.

POTENTIAL ACUTE HEALTH EFFECTS

Eye Contact	Product liquids, aerosols or vapors are irritating. Vapors may cause a transient condition known as glauropsia, resulting in blurred vision and appearance of halos around bright objects.
Skin Contact	May cause irritation and dermatitis.
Ingestion	May cause irritation to throat, esophagus and stomach (nausea, abdominal pains, vomiting and diarrhea).
Inhalation	May cause headaches, dizziness, drowsiness and other central nervous system effects.

POTENTIAL CHRONIC HEALTH EFFECTS

Sensitization	Not known or reported.
Carcinogenic Effects	The components of this product are not listed by NTP, IARC or regulated as a carcinogen by OSHA.
Mutagenic Effects	No known significant effects or critical hazards.
Reproductive Effects	No known significant effects or critical hazards.
Developmental Effects	No known significant effects or critical hazards.

SECTION 12: ECOLOGICAL INFORMATION

Ecological testing has not been conducted for this product. Available toxicological data for individual ingredients are summarized below.

AQUATIC TOXICITY DATA FOR COMPONENTS TOXICITY

Polyol Blend	N/A
Tris-iso-chloropropyl Phosphate	LC50: 51 mg/l (96 hrs) (fathead minnow); 180 mg/l (96 hrs) (bluegill sunfish); 131 mg/l (96 hrs) (daphnia magna)
1,1,1,3,3-Pentafluorobutane	LC50: > 200 mg/l (96 hrs) (brachydanio rerio); 114 mg/l (75 hrs) (algen); EC50: > 200 mg/l (48 hrs) (daphnia)
1,1,1,2,3,3,3-Heptafluoropropane	LC50: > 200 mg/l (96 hrs) (brachydanio rerio); 114 mg/l (75 hrs) (algen); EC50: > 200 mg/l (48 hrs) (daphnia)
Tertiary Amine Catalyst	LC50: 220 mg/l (96 hrs) (golden orfe); EC50: 76 mg/l (48 hrs) (daphnia magna)

SECTION 13: DISPOSAL CONSIDERATION

Waste Disposal Method	The generation of waste should be avoided or minimized whenever possible. Waste must be disposed of in compliance with federal, state, provincial and local environmental control regulations. Dispose of surplus and non-recyclable products via licensed waste disposal contractor. Incineration is the preferred method. If incinerated, toxic and corrosive combustion gases must be properly handled.
Empty Container Precautions	Empty containers retain product residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.
Demilec has no control over the management practices or manufacturing processes of parties handling or using this material. The information presented here pertains only to the product as shipped in its original condition as described in SDS Section 3 (Ingredients).	

SECTION 14: TRANSPORTATION INFORMATION	
Technical Shipping Name	Geolok B-side
Land Transport / DOT Classification	Non-regulated
Sea Transport / IMDG Classification	Non-regulated
Air Transport / ICAO / IATA Classification	Aviation regulated liquid, n.o.s (contains Hydrofluorocarbon) UN 3334 / Hazard Class or Division: 9 / Packaging Group III Hazardous Label: Miscellaneous
TDG Classification	Non-regulated
Emergency Telephone Number	1-877-DEMILEC (336-4532) or CHEMTREC 800-424-9300 or CANUTEC 613-996-6666

SECTION 15: REGULATORY INFORMATION	
U.S. FEDERAL REGULATIONS	
OSHA Hazcom Standard Rating	This material is classified hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).
HSC Classification	Irritant
U.S. Toxic Substances Control Act / TSCA	All ingredients are listed on the TSCA Inventory.
U.S. EPA CERCLA Hazardous Substances (40 CFR 302)	Non-regulated
SARA Section 311/312 Hazard Categories	Acute Health Hazard; Chronic Health Hazard; Fire Hazard
U.S. EPA EPCRA SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)	Non-regulated
U.S. EPA EPCRA SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) – Supplier Notification Required	Non-regulated
U.S. EPA RCRA Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261)	If discarded in its purchased form, this product will not be a hazardous waste either by listing or by characteristic. However, under RCRA, it is responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24).
State Regulations	Check individual state requirements.
CANADA	
WHMIS	Class D-2B / Material causing other toxic effects (toxic)
CEPA (DSL)	All components are listed or exempted.

SECTION 16: OTHER INFORMATION		
HMIS Rating 0 – Minimal; 1 – Slight; 2 – Moderate; 3 – Serious; 4 – Severe	Health	2
	Fire Hazard	1
	Reactivity	0
NFPA Rating 0 – Insignificant; 1 – Slight; 2 – Moderate; 3 – High; 4 – Extreme	Health Hazard: 2 Flammability Hazard: 1 Instability Hazard: 0	
This product does not contain nor is it manufactured with ozone depleting substances.		
<p>Notice: The information herein is presented in good faith and believed to be accurate as of the effective date shown below. However, no warranty expressed or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the user's responsibility to ensure that its activities comply with country, state, provincial and local laws. This product may present hazards and should be used with caution. While certain hazards are described in this publication, no guarantee is made that these are the only hazards that exist. Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.</p>		
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