



Material Safety Data Sheet

DUNAPACK™ B 5518 POLYOL

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: DUNAPACK™ B 5518 POLYOL
Product type and use: Formulated polyol based for polyurethane systems
Company: DUNA-USA Inc.
4210 FM 1405
Baytown, TX, USA
1-281-383-3862

In case of emergency call: CHEMTREC 1-800-424-9300 (24 HOURS DAY, 7 DAYS A WEEK)

2. HAZARDS IDENTIFICATION

Physical state: Liquid.
Appearance: Pale yellow transparent liquid.
OSHA/HCS status: This material is classified as hazardous under OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview: WARNING! Harmful if swallowed. Causes severe eye irritation. May cause skin and respiratory tract irritation.
General information: Read the entire MSDS for a more thorough evaluation of the hazards.
Potential health effects
Routes of exposure: Inhalation. Ingestion. Skin contact. Eye contact.
Eyes: Causes severe eye irritation.
Skin: May cause skin irritation. Prolonged contact may cause dryness of the skin. The product contains components which may penetrate skin.
Inhalation: May cause irritation of respiratory tract.
Ingestion: Harmful if swallowed. May cause digestive tract irritation.
Target organs: Eyes. Skin. Respiratory system. Digestive tract. Central nervous system. Kidneys.
Chronic effects: High concentrations: May cause central nervous system effects. May cause damage to the kidneys.
Signs and symptoms: Symptoms can include irritation, redness, scratching of the cornea, and tearing.
Potential environmental effects: The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.



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3. COMPOSITION / INFORMATION ON INGREDIENTS

Name	CAS number	%
Glycerol, propoxylated	25791-96-2	30 - 50
Bis(2-dimethylaminoethyl) ether	3033-62-3	0.1 - 1.0
Ethylene glycol	107-21-1	0.1 - 1.0

4. FIRST AID MEASURES

First aid procedures

Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical attention immediately. Continue to rinse.
Skin contact	Remove contaminated clothes and rinse skin thoroughly with water for at least 15 minutes. Get medical attention if irritation develops and persists.
Inhalation	Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water and give large amounts of milk or water, if person is conscious. Get medical attention if any discomfort continues.
Notes to physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable properties	By heating and fire, toxic vapors/gases may be formed. This product is not flammable or combustible. Will burn if strongly heated and when involved in fire. Can ignite on hot surfaces.
Extinguishing media	Suitable extinguishing media: use any media suitable for the surrounding fires.
Protection of firefighters	Protective equipment and precautions for firefighters: Use standard firefighting procedures and consider the hazards of other involved materials.
Special protective equipment for fire-fighters	Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Hazardous combustion products	Carbon monoxide.



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6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid inhalation of vapors and contact with skin and eyes. Wear suitable protective clothing. See Section 8 of the MSDS for Personal Protective Equipment.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.
Methods for containment	Inform authorities if large amounts are involved.
Methods for cleaning up	Absorb spillage with suitable absorbent material. For waste disposal, see Section 13 of the MSDS.
Other information	Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Storage:	Local exhaust is recommended. Avoid inhalation of vapors and contact with skin and eyes. Observe good industrial hygiene practices.
Handling:	Store in a well-ventilated place. Store in closed original container at temperatures between 15°C and 30°C. Prolonged contact with air may cause formation of explosive peroxides. Periodically test for peroxide formation on long-term storage.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits

ACGIH

Components	Type	Value	Form
Bis(2-dimethylaminoethyl) ether (3033-62-3)	STEL	0.15 ppm	
	TWA	0.05 ppm	
Ethylene glycol (107-21-1)	TWA	100 mg/m ³	Aerosol.

U.S. - OSHA

Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	50 ppm 125 mg/m ³	

CANADA - ALBERTA

Components	Type	Value	Form
Bis(2-dimethylaminoethyl) ether (3033-62-3)	STEL	0.15 ppm	
		0.98 mg/m ³	
	TWA	0.05 ppm	



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		0.33 mg/m ³	
Ethylene glycol (107-21-1)	Ceiling	100 mg/m ³	Areosol
<i>CANADA – BRITISH COLUMBIA</i>			
Components	Type	Value	Form
Bis(2-dimethylaminoethyl) ether (3033-62-3)	STEL	0.15 ppm	
	TWA	0.05 ppm	
Ethylene glycol (107-21-1)	Ceiling	100 mg/m ³	Areosol
		50 ppm	Vapor
	STEL	20 mg/m ³	Particulate
	TWA	10 mg/m ³	Particulate

<i>CANADA – ONTARIO</i>			
Components	Type	Value	Form
Bis(2-dimethylaminoethyl) ether (3033-62-3)	STEL	0.15 ppm	
	TWA	0.05 ppm	
Ethylene glycol (107-21-1)	Ceiling	100 mg/m ³	

<i>CANADA – QUEBEC</i>			
Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	50 ppm	Vapor and mist
		127 mg/m ³	Vapor and mist

<i>MEXICO</i>			
Components	Type	Value	Form
Ethylene glycol (107-21-1)	Ceiling	100 mg/m ³	Areosol

Engineering controls: Provide adequate ventilation. Observe Occupational Exposure Limits and minimize the risk of inhalation of vapors. Provide easy access to water supply and eye wash facilities.

Personal protective equipment

- Eye / face protection Wear safety glasses with side shields (or goggles).
- Skin protection Wear appropriate chemical resistant clothing to prevent any possibility of skin contact. Risk of contact: Wear suitable gloves.
- Respiratory protection If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Use a NIOSH-approved respirator if there is a potential for exposure to dust exceeding exposure limits (See 29 CFR 1910.134, respiratory protection standard).



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General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	Transparent.
Odor:	Not available
Odor threshold:	Not available.
Vapor pressure:	Not available.
Relative density:	1.04
VOC content:	Not available
Viscosity	720 cps at 21°C (69.8°F)

10. CHEMICAL STABILITY AND REACTIVITY INFORMATION

Chemical stability	The product is hygroscopic and will absorb water by contact with the moisture in the air. Forms unstable or flammable peroxides on prolonged exposure to air.	
Conditions to avoid	Excessive heat.	
Incompatible materials	Epoxides. Acids. Isocyanates. Ketones. Oxidizing agents.	
Hazardous decomposition products	Carbon monoxide.	Formaldehyde.
Possibility of hazardous reactions	Hazardous polymerization does not occur.	

11. TOXICOLOGICAL INFORMATION

Toxicological data

Components

Ethylene glycol (107-21-1)

Test Results

Acute Dermal LD50 Rabbit: 9530 mg/kg
Acute Oral LD50 Rat: 4700 mg/kg

Bis(2-dimethylaminoethyl) ether (3033-62-3)

Acute Dermal LD50 Rabbit: 235 mg/kg
Acute Inhalation LC50 Rat: 166 ppm 6 Hours
Acute Oral LD50 Rat: 1045 mg/kg

Acute effects

Harmful if swallowed. Causes severe eye irritation. May cause skin and respiratory tract irritation. May cause digestive tract irritation.



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<u>Local effects</u>	Risk of serious damage to eyes. May cause redness and pain.
<i>US ACGIH Threshold Limit Values: Skin designation</i>	Bis(2-dimethylaminoethyl) ether (CAS 3033-62-3): Can be absorbed through the skin.
Sensitization	Not a skin sensitizer.
Chronic effects	High concentrations: May cause central nervous system effects. May cause damage to the kidneys.
<u>Carcinogenicity</u>	This product is NOT considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
<i>ACGIH Carcinogens</i>	Ethylene glycol (CAS 107-21-1): Group A4 Not classifiable as a human carcinogen.
Epidemiology	Not available.
Mutagenicity	Not available.
Neurological effects	High concentration: May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue) and/or damage.
Reproductive effects	Not available.
Teratogenicity	Not available.

12. ECOLOGICAL INFORMATION

Ecotoxicological data

Ethylene glycol (107-21-1): LC50 Fathead minnow (*Pimephales promelas*): 8050 mg/l 96 Hours

Ecotoxicity The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence and degradability Not available.

Bioaccumulation / Accumulation No data available.

Mobility in environmental media No data available.

13. DISPOSAL CONSIDERATIONS

Disposal instruction: Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

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14. TRANSPORT INFORMATION

DOT Classification: Not regulated
TDG Classification, IMDG Class, IATA-DGR Class: Not regulated.

15. REGULATORY INFORMATION

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ethylene glycol (CAS 107-21-1) 1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

CERCLA (Superfund) reportable quantity (lbs)

Ethylene glycol 5000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
 Delayed Hazard - Yes
 Fire Hazard – No
 Pressure Hazard – No
 Reactivity Hazard - Yes

Section 302 extremely hazardous substance – No

Section 311 hazardous chemical - Yes

Drug Enforcement Agency (DEA) – Not controlled

WHMIS status Controlled

WHMIS classification D2B - Other Toxic Effects - TOXIC



WHMIS labeling

Inventory status

<i>Country(s) or region</i>	<i>Inventory name</i>	<i>On inventory (yes/no)*</i>
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No



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Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

US - California Hazardous Substances (Director's): Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

US - Massachusetts RTK - Substance: Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

US - New Jersey Community RTK (EHS Survey): Reportable threshold

Ethylene glycol (CAS 107-21-1) 500 LBS

US - New Jersey RTK - Substances: Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

16. OTHER INFORMATION

Further information	HMIS® is a registered trade and service mark of the NPCA. G - Safety Glasses, Gloves, Vapor respirator.
Disclaimer	The information in the sheet was written based on the best knowledge and experience currently available.

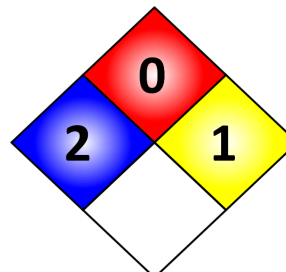
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Hazardous Material Information System (U.S.A.):

National Fire Protection Association (U.S.A.):

2	Health
0	Flammability
1	Reactivity
G	Protective Equipment



Notice to reader

While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE 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 behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.