



SAFETY DATA SHEET - SDS

Dynamo Polyurethane Systems - Dynamo 2000 Series
Resin Component B - Part B



SECTION 1 : IDENTIFICATION

1.1. Identification

Product form : Mixtures
Chemical Name : Polyurethane Resin B - Side
Product Type : Liquid
Identified Use : Component B of Spray - Applied System
Cas No. : Mixture
Product name : Dynamo 2000, Dynamo 2000 SS, Dynamo 2000 WS, Dynamo 2000 2X, Dynamo 2000 SS 2X, Dynamo 2000 WS 2X

1.2. Recommended use and restrictions on use

Use of the substance/mixture : A component for the production of high pressure spray foam insulation

1.3. Supplier

Dynamo Polyurethane Systems Inc.
2113 Harwood Rd.
Ste 309 #900
Bedford, TX 76021
Tel: 469-799-9991
info@Dynamosp.com

1.4. Emergency telephone number

Emergency number : CHEMTREC (24 hours) 800-424-9300
International (24 hours) +1-703-527-3887

SECTION 2 : HAZARD(S) IDENTIFICATION

2.1. Classification of the substance or mixture

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

GHS-US classification

Acute toxicity (oral), Category 4	H302	Harmful if swallowed
Skin corrosion/irritation, Category 1B	H314	Causes severe skin burns and eye damage
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage

Full text of H statements: see section 16

2.2. GHS LABEL ELEMENTS**GHS-US labelling**

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US)	:	Danger
Hazard statements (GHS-US)	:	H315: Causes skin irritation. H318: Causes serious eye damage.
Precautionary statements (GHS-US)	:	
Prevention	:	P260: Do not breathe dust/fume/gas/mist/vapours/spray. P264: Wash (hands and exposed skin) thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response	:	P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P332+P313: If skin irritation occurs: Get medical advice/attention. P363: Wash contaminated clothing before reuse.



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P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310: Get immediate medical advice/attention.

P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P310: Immediately call a POISON CENTER/doctor.

P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell.

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)
Not applicable

Not applicable

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixtures

Ingredient Name	Cas #	Concentration
POLYOL	PROPRIETARY	>85.0 %
PEL/TLV NOT ESTABLISHED		
SURFACTANT	PROPRIETARY	<1.0 %
PEL/TLV NOT ESTABLISHED		
CATALYST	PROPRIETARY	<2.0 %
PEL/TLV NOT ESTABLISHED		
HYDROFLUOROCARBON	460-73-1	>5.0%
TRIS-(2-CHLOROISOPROPYL)- PHOSPATE	13674-84-5	>7.0%

Section 4 : FIRST AID MEASURES

Eye contact : Rinse immediately with plenty of water for 15 minutes. Contact lenses should be removed. Immediately get medical attention.



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- Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of breathing difficulties administer oxygen. In case of irregular breathing or respiratory arrest provide artificial respiration. Get medical advice/attention if you feel unwell.
- Skin contact : Remove contaminated clothing immediately. Wash skin thoroughly with mild soap and water. Seek medical attention immediately.
- Ingestion : Rinse mouth immediately and drink plenty of water. Induce vomiting. Never give any thing by mouth to an unconscious person. If unconscious, place in the recovery position and seek medical advice. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects (acute and delayed)

- After inhalation : May be harmful if inhaled. Prolonged exposure to liquid may cause a mild irritation.
- After skin contact : Causes severe skin burns.
- After eye contact : Causes serious eye damage.
- After ingestion : Harmful if swallowed. May cause stomach pain or discomfort and gastrointestinal disturbance.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

- Notes to Physician : Treat symptomatically.
- Protection of first aiders : No action shall be taken involving any personal risk or without suitable training. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

SECTION 5 : FIRE FIGHTING MEASURES

5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water. Dry extinguishing powder. Carbon dioxide. Alcohol resistant foam.
- Unsuitable extinguishing media : None known.

5.2. Specific hazards arising from the chemical



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- Fire hazard : Minimal fire hazard. Combustion may produce irritating fumes and carbon oxides.
- Explosion hazard : None known.
- Specific hazards arising from the chemical : Carbon dioxide, carbon monoxide, oxides of nitrogen, dense black smoke. Burning produces irritant fumes.
- Reactivity : Stable under normal conditions of use.

5.3. Special protective equipment and precautions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk without suitable training. Fire fighters should wear appropriate protective equipment and self contained breathing apparatus with a full face piece operated in positive pressure mode. Move undamaged containers from immediate hazard area if it can be done safely.

Other information : Prevent entry to sewers and public waters.

SECTION 6 : Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- 6.1.1. Spill Procedure : Clean up personnel must wear protective equipment to prevent contact with the product. Evacuate the area of all unnecessary personnel. Stop spill at source. Use inert absorbent material such as sand, clay, earth or floor absorbent to clean up spill. Shovel into drums.
- 6.1.2. Personal Precautions, protective equipment and emergency procedures : Ensure adequate ventilation. Wear personal protection equipment. Remove persons to safety. Do not breathe vapors or spray mist.
- 6.2. Methods and material for containment and cleaning up : Suitable material for taking up: Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Wash with plenty of water.
- 6.3. Environmental precautions: Prevent entry to sewers and public waters.

SECTION 7 : Handling and storage

7.1. Precautions for safe handling : Avoid mixing with air or use for any purpose above atmospheric



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pressure. If possible use nitrogen (under pressure) to carry out transfers. No special fire protection measures are necessary.

- 7.2. Hygiene measures : Wash contaminated clothing prior to re-use. Always wash hands and face immediately after handling this product, and once again before leaving the workplace. Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.
- 7.3. Conditions for safe storage : Store product in accordance with local regulation. Store product at room temperature away from heat and moisture. Store product in original container in a dry, cool, and well ventilated area with local exhaust. Protect from freezing.
- 7.4. Incompatible materials : Strong oxidizing agents. Strong acid. Strong bases.
- 7.5. Storage temperature : 68 - 80°F (20 - 27°C)

SECTION 8 : Exposure controls/personal protection

- 8.1. Appropriate engineering : Use ventilation adequate to keep exposures (airborne levels of controls dust, fume, vapor, etc) below recommended exposure limits. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes, and clothing. Do not breathe dust/fume/gas/mist/vapors.
- 8.3. Individual protection Measures Eye Protection : When directly handling liquid product, eye protection is required, such as chemical safety goggles or chemical safety goggles in combination with a full-face shield when there is a greater risk of splash.
- 8.4. Hand protection : Impervious gloves e.g. PVC, nitrile rubber, butyl rubber
- 8.5. Skin and body protection : Long sleeved protective clothing. Chemical resistant apron
- 8.6. Respiratory protection : Spraying increases the risk of hazardous exposure. In atmospheres where the material is sprayed, workers should avoid contact with aerosols through proper engineering



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controls such as exhaust ventilation and proper protective equipment such as a full face air supplied respirators. NIOSH/MSHA approved air purifying respirator should be used if operating conditions produce airborne concentrations that exceed exposure limits for any individual components.

- 8.7. Hygiene Measures : Wash hands, forearms and face thoroughly after handling chemical products.
- 8.8. Personal Protective Equipment(PPE) : Protective goggles. Gloves. Protective clothing. Insufficient ventilation: wear respiratory protection.



SECTION 9 : Physical and chemical properties

9.1. Physical and chemical properties

- Color : Clear to amber/dark amber
- Odor : Slightly ammoniacal
- Odor Threshold (ppm) : Not available.
- pH (Value) : ~10
- Melting Point (°C) / Freezing Point (°C) : Not available
- Boiling point/boiling range (°C) : Not available
- Flash Point (°C) : Closed cup: > 200°F (93°C)
- Evaporation Rate : Not available
- Flammability (solid, gas) : Not applicable
- Explosive Limit Ranges : Not available
- Vapour pressure (Pascal) : Negligible @ 25 °C
- Vapour Density (Air=1) : Not available
- Density (g/ml) : Not available
- Specific Gravity @ 77°F (25°C) : Summer formula – 1.17 – 1.21
Winter formula – 1.20 – 1.22
- Volatility : Not available

9.2. Other information



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No additional information available

SECTION 10 : Stability and reactivity

- 10.1. Reactivity : No specific test data related to reactivity available for this product or its ingredients.
- 10.2. Chemical stability : Stable under normal conditions of use.
- 10.3. Possibility of Hazardous Reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4. Incompatibility (Materials to avoid) : Strong oxidizing materials, strong acids and alkali or alkaline earth metals (aluminum, zinc, beryllium and copper). Avoid unintended contact with isocyanates.
- 10.5. Conditions to Avoid : High temperatures, open flames and sparks. Do not use in areas with out adequate ventilation. Temperatures > 85 °F(29 °C). Protect from moisture. Direct sunlight. Excessive heat.
- 10.6. Hazardous Polymerization : Polymerization will occur in contact with isocyanates.
- 10.7. Hazardous decomposition : Combustion may produce irritating fumes and carbon oxides. Oxides of nitrogen and carbon. Other potentially toxic fumes.

SECTION 11 : Toxicological information

11.1. Information on toxicological effects

11.1.1 Exposure routes: Inhalation, Skin Contact, Eye Contact

11.1.2 Acute Toxicity : Not classified

Ingredient Name	Species	Result
Ethylene glycol (107-21-1)	LD50oral rat	4000mg/kg
ATE US (oral)		500.00000000 mg/kg bodyweight
Diethylene glycol (111-46-6)	LD50oral rat	12565 mg/kg
	LD50 dermal rabbit	11890 mg/kg



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	ATE US (oral)	500.00000000 mg/kg bodyweight
2-Propanol, 1-chloro-, phosphate (3:1) (13674-84-5)	LD50 oral rat	930 - 1550 mg/kg
	LD50 dermal rabbit	1230 mg/kg
	LC50 inhalation rat (mg/l)	> 17.8 mg/l (Exposure time: 1 h)
	ATE US (oral)	930.00000000 mg/kg bodyweight
	ATE US (dermal)	1230.00000000 mg/kg bodyweight
2-Propanol, 1-chloro-, phosphate (3:1) (13674-84-5)	LD50 oral rat	930 - 1550 mg/kg
	LD50 dermal rabbit	1230 mg/kg
	LC50 inhalation rat (mg/l)	> 17.8 mg/l (Exposure time: 1 h)
	ATE US (oral)	930.00000000 mg/kg bodyweight
	ATE US (dermal)	1230.00000000 mg/kg bodyweight
Bis(2-dimethylaminoethyl) ether (3033-62-3)	LD50 oral rat	910 mg/kg
	LD50 dermal rabbit	238 mg/kg
	LC50 inhalation rat (ppm)	117 ppm (Exposure time: 6 h)
	ATE US (oral)	910.00000000 mg/kg bodyweight
	ATE US (dermal)	238.00000000 mg/kg bodyweight
	ATE US (gases)	4500.00000000 ppmv/4h
	ATE US (vapours)	11.00000000 mg/l/4h
ATE US (dust,mist)	1.50000000 mg/l/4h	
1,3-Propanediamine, N, N-bis[3-(dimethylamino) propyl]-N',N'-dimethyl- (33329-35-0)	ATE US (dermal)	1100.00000000 mg/kg bodyweight

11.2. SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)

Product / Ingredient Name	Category	Route of Exposure	Target Organs
1,1,1,3,3-Pentafluoropropane	Category 3	Not applicable	Narcotic effects

11.3. SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE)

There is no data available.

11.4. ASPIRATION HAZARD

There is no data available.

11.5. INFORMATION ON THE LIKELY ROUTES OF EXPOSURE

Dermal contact. Inhalation. Ingestion. Eye contact.

11.6. POTENTIAL ACUTE HEALTH EFFECTS

Eye Contact	Causes serious eye irritation.
Inhalation	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin Contact	No known significant effects or critical hazards.
Ingestion	Irritating to mouth, throat and stomach.

11.7. SYMPTOMS RELATED TO THE PHYSICAL, CHEMICAL AND TOXICOLOGICAL CHARACTERISTICS

Eye Contact	Adverse symptoms may include the following: pain or irritation, watering,
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	redness.
Skin Contact	No known significant effects or critical hazards.
Ingestion	No known significant effects or critical hazards.
Inhalation	No known significant effects or critical hazards.
Aspiration hazard	: Not classified
	Based on available data, the classification criteria are not met
Symptoms/injuries after inhalation	: Inhalation of mist or aerosol may cause irritation to nose and throat . May cause irritation to the respiratory tract.
Symptoms/injuries after ingestion	: Can occur: Gastrointestinal disturbance. Tremor. Cardiac disorders. Incoordination, dizziness, headache, nausea, mental confusion slurred speech depending to quantity of ingested material.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye damage.

SECTION 12 : Ecological information

12.1. Ecotoxicity	: Not available.
12.2. Persistence and Degradability:	Not expected to be rapidly biodegradable.
12.3. Mobility in Soil	: Not available
12.4. Bioaccumulative Potential	: Not available.
Other adverse effects	: Not available

SECTION 13 : Disposal considerations

13.1. Disposal methods	
Waste treatment methods	: Dispose of this material and its container to hazardous or special waste collection point.
Product/Packaging disposal recommendations	: Comply with Federal, provincial, and local regulations on report ing releases. Consult your local or regional authorities.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14 : Transport information

Department of Transportation (DOT):

In accordance with DOT
Not regulated



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Transportation of Dangerous Goods
Not regulated

Air transport
Not regulated

Transport by sea
Not regulated

SECTION 15 : Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture is not known to contain a toxic chemical (s) in excess of the applicable inconsequential concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

- 16.1. Other information : The attention of the user is drawn to the risks possibly incurred by using the product for any other purpose than that for which it was intended
- 16.2. H-statement(s) : Hazard Statement(s) Listed in : SECTION 3
H227: Combustible liquid.
H302: Harmful if swallowed.
H311: Toxic in contact with skin.
H312: Harmful in contact with skin.
H314: Causes severe skin burns and eye damage.
H315: Causes skin irritation.
H318: Causes serious eye damage.
H332: Harmful if inhaled.
H402: Harmful to aquatic life.
H411: Toxic to aquatic life with long lasting effects.



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Additional Information: None.

16.3. Safety Data Sheet issued by Product Safety Department : This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Dynamo Polyurethane Systems Inc. Dynamo Polyurethane Systems Inc. assumes no legal responsibility for use or reliance upon this data. It is the user's responsibility to ensure that their activities comply with federal, state, or local laws.

Date of Issue : August 2022

Additional Information : NONE