Appendix A

Safety Data Sheets for Priority Products Produced by the Submitter of This Abridged AA Report

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: ISOCYANATE - ISO COMPONENT A

Product Code: ISO-52, ISO-5, ISO-15, ISO-50, ISO-275, ISO-US-52

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray Foam Insulation

Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA

Telephone Number: 800-331-0196 / **International**: 001-800-331-0196

Email: sds@gaco.com

Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Acute Toxicity – Inhalation	4
Skin Corrosion/Irritation	2
Eye Damage/Irritation	2B
Sensitization – Skin	1
Sensitization – Respiratory	1
STOT SE – Specific Target Organ Toxicity (Single Exposure)	3
STOT RE – Specific Target Organ Toxicity (Repeated Exposure)	1

2.2 LABEL ELEMENTS

Hazard pictogram: GHS07, GHS08

Signal word: Danger

Hazard statement:
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye irritation
Harmful if inhaled
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause respiratory irritation
Causes damage to organs (Respiratory) through prolonged or repeated (inhalation) exposure

Prevention:
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/eye protection/face protection.
In case of inadequate ventilation, wear respiratory protection.

Response:
Specific treatment (see Section 8 on this label).
If on skin: Wash with plenty of water.
If skin irritation or a rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If skin irritation or a rash occurs: Get medical advice/attention.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a poison/doctor.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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

2.3 ADDITIONAL INFORMATION

Main symptoms: Prolonged exposure may cause chronic effects. Causes damage to organs (lungs) through prolonged or repeated (inhalation) exposure. Skin irritation. May cause redness and pain. May cause allergic skin reaction. Dermatitis. Rash. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Difficulty breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction. Lung damage and respiratory sensitization may be permanent.

Hazards not otherwise specified: None Known

5.0% of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
Polymeric Diphenylmethane Diisocyanate (pMDI)	9016-87-9	50-60%

4,4'-Diphenylmethane Diisocyanate (MDI)	101-68-8	35-45%
2,4'-Diphenylmethane Diisocyanate (MDI)	5873-54-1	1-5%
2,2'-Diphenylmethane Diisocyanate (MDI)	2536-05-2	0.1-1.0%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information: If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Inhalation: Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours.

Skin contact: Immediately remove contaminated clothing and shoes. Wash off with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse. For severe exposures, immediately get under safety shower and begin rinsing. Get medical attention if irritation develops.

Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Get medical attention.

Ingestion: Do NOT induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Prolonged exposure may cause chronic effects.
May cause damage to organs (lungs) through prolonged or repeated (inhalation) exposure.
Skin irritation. May cause redness and pain.
May cause allergic skin reaction. Dermatitis. Rash.
Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Difficulty breathing.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Acute: Diisocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are

usually reversible.

Causes skin irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove. Contact with MDI can cause discoloration.
Causes eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.
May cause irritation of the digestive tract. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Delayed: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically. Symptoms may be delayed.

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.
Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.
Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound.
Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: No unusual fire or explosion hazard.

Suitable extinguishing media: Foam, CO2 or dry powder. Water spray may be used if no other available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous. Prevent washings from entering water courses, keep fire exposed containers cool by spraying with water.

Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.

Products of combustion: May include, and are not limited to: carbon oxides (CO, CO2) nitrogen oxides (NO, NO2 etc.) hydrocarbons, isocyanate vapors, and hydrogen cyanide.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters:

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Immediately contact emergency personnel. Evacuate the area. Keep upwind to avoid inhalation of vapors. Clean-up should only be performed by trained personnel. People dealing with major spillages should wear full protective clothing including respiratory protection. Use suitable protective equipment (section 8). Keep unauthorized persons away.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Spill and Leak Procedures: Implement site emergency response plan. Evacuate non-emergency personnel. The magnitude of the evacuation depends upon the quantity released, site conditions, and the ambient temperature. Isolate the area and prevent access of unauthorized personnel. Notify management. Call CHEMTREC at 1-800-424-9300 for assistance and advice.

Wear necessary personal protective equipment (PPE) as specified in the SDS or the site emergency response plan. Ventilate and remove ignition sources. Control the source of the leak. Contain the released material by damming, diking, retaining, or diverting into an appropriate containment area. Absorb or pump off as much of the spilled material as possible. When using absorbent, completely cover the spill area with suitable absorbent material (e.g., vermiculite, kitty litter, Oil-Dri®, etc…). Allow for the absorbent material to absorb the spilled liquid. Shovel the absorbent material into an approved metal container (i.e., 55-gallon salvage drum). Do not fill the container more than 2/3 full to allow for expansion, and do not tighten the lid on the container. Repeat application of absorbent material until all liquid has been removed from the surface.

Decontaminate the spill surface area using a neutralization solution (see list of solutions on the SDS); scrubbing the surface with a broom or brush helps the decontamination solution to penetrate into porous surfaces. Wait at least 15 minutes after first application of the neutralization solution. Cover the area with absorbent material and shovel this into an approved metal container. Check for residual surface contamination using Swype® test kits, available from Colorimetric Laboratories, Inc. (CLI) at 847-803-3737. If the Swype® test pad demonstrates that isocyanate remains on the surface (red color on pad), repeat

applications of neutralization solution, with scrubbing, followed by absorbent until the surface is decontaminated (no color change on Swype® pad). Apply lid loosely to metal waste container (do not tighten the lid because carbon dioxide gas and heat can be generated from the neutralization process). With the lid still loosely in place, move the container to an isolated, well-ventilated area to allow release of carbon dioxide. After 72 hours, seal the container, and properly dispose of the waste material and any contaminated equipment (i.e., broom or brush) in accordance with existing federal, state and local regulations.

Additional Spill Procedures/Neutralization:

Products or product mixtures that have been shown to be effective neutralization solutions for decontaminating surfaces, tools, or equipment that have been in contact with an isocyanate includes:
Products available through industrial suppliers:

- Spartan Chemical Company: 1-800-537-8990:
  - Spartan® ShineLine Emulsifier Plus
  - Spartan® SC-200 Heavy Duty Cleaner
- Colorimetric Laboratories, Inc. (CLI): 1-847-803-3737
  - Isocyanate Decontamination Solution
- A mixture of 80% water, 20% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10).
- Mix equal amounts of the following:
  - Mineral spirits (80%), VM&P Naphtha (15%), and household detergent (5%), and
  - A 50-50 mixture of monoethanolamine and water
  - In a separate container, blend the two solutions in a 1:1 ratio by volume. Immediately prior to applying this blended neutralization solution onto the contaminated surface area, mix or agitate the container to help ensure uniform mixing of the ingredients.

If the above products are not available, the following products can be obtained through retail outlets:

- ZEP® Commercial Heavy-Duty Floor Stripper
- Greased Lightning® Super Strength Cleaner and Degreaser
- EASY OFF® Grill and Oven Cleaner or EASY OFF® Fume Free Oven Cleaner
- A mixture of 50% Simple Green® Pro HD Heavy-Duty Cleaner and 50% household ammonia
- A mixture of 90% Fantastic® Heavy Duty All Purpose Cleaner and 10% household ammonia.

Note: Always wear proper PPE when cleaning up an isocyanate spill and using a neutralization solution. It may take two or more applications of the neutralization solution to decontaminate the surface. Check for residual surface contamination using a surface wipe method such as the CLI Swype® pad.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Safe handling advice: Observe good industrial hygiene practices.

Do not breath vapors, mists, or dusts. Use adequate ventilation to

keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are NOT adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do NOT breathe smoke and gases created by over heating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do NOT reseal if contamination is suspected.

General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Storage Period: 6 Months: after receipt of material by customer
Store away from incompatible materials.
Minimum: 50°F (10°C)
Maximum: 86°F (30°C)

Specific use: Spray Foam Insulation

Technical measures: No specific recommendations.

Incompatible materials: Copper, copper alloy and galvanized surfaces. Moisture sensitive.

Safe storage: Store away from incompatible materials. Store in tightly closed containers to prevent moisture contamination. Do NOT reseal if contamination is suspected.

Safe packaging material: No specific recommendations.

Precautions: Use personal protective recommended in Section 8 of the SDS.

Safe handling advice: Observe good industrial hygiene practices.

Suitable storage conditions: Store away from incompatible materials. Store in tightly closed containers to prevent moisture contamination. Do NOT reseal if contamination is suspected.

Handling-technical measures: No specific recommendations.

Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

4,4'-Diphenylmethane Diisocyanate (MDI)
OSHA:
PEL-C ppm: 0.02
PEL-C mg/m3: 0.2
NIOSH:
REL-TWA ppm: 0.005
REL-TWA mg/m3: 0.05

REL-C ppm: 0.02
REL-C mg/m3: 0.2
IDLH mg/m3: 75

2,4'-Diphenylmethane Diisocyanate (MDI)
OSHA:
PEL-C ppm: 0.02
PEL-C mg/m3: 0.2
NIOSH:
REL-TWA ppm: 0.005
REL-TWA mg/m3: 0.05
REL-C ppm: 0.02
REL-C mg/m3: 0.2
IDLH mg/m3: 75

8.2 EXPOSURE CONTROLS

Engineering/Industrial Hygiene/Ventilation measures to reduce exposure:
Local exhaust should be used to maintain levels below the TLV whenever MDI is heated, sprayed, or aerosolized. Standard reference sources regarding industrial ventilation (e.g., ACGIH Industrial Ventilation Manual) should be consulted for guidance about adequate ventilation. To ensure that published exposure limits have not been exceeded, monitoring for airborne diisocyanate should become part of the overall employee exposure characterization program. NIOSH, OSHA, and others have developed sampling and analytical methods.

.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General: Use personal protective equipment as required. Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions.

Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction. Lung damage and respiratory sensitization may be permanent.

All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history or eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who are potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted.

Eye protection: When directly handling liquid product, eye protection is required. Examples of eye protection include a chemical safety goggle, or chemical safety goggle in combination with a full-face shield when there is a greater risk of splash.

Hand protection: Gloves should be worn., Nitrile rubber showed excellent resistance., Butyl rubber, neoprene and PVC are also effective.

Respiratory protection: Airborne MDI concentrations greater than the ACGIH TLV-TWA (TLV) or OSHA PEL-C (PEL) can occur in inadequately ventilated environments when MDI is sprayed, aerosolized, or heated. In such cases, respiratory

protection must be worn. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). The type of respiratory protection available includes (1) an atmosphere-supplying respirator such as a self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR) in the positive pressure or continuous flow mode, or (2) an air-purifying respirator (APR). If an APR is selected then (a) the cartridge must be equipped with an end-of-service life indicator (ESLI) certified by NIOSH, or(b) a change out schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the written respirator program. Further, if an APR is selected, the airborne diisocyanate concentration must be no greater than 10 times the TLV or PEL. The recommended APR cartridge is an organic vapor/particulate filter combination cartridge (OV/P100).

Skin and body protection: Avoid all skin contact. Depending on the conditions of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact., Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction., This data reinforces the need to prevent direct skin contact with isocyanates.

Medical Surveillance: All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. Applicants with a history of prior isocyanate sensitization should be excluded from further work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who are potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted.

Control parameters: Follow standard monitoring procedures.
Local exhaust should be used to maintain levels below the TLV whenever MDI is heated, sprayed, or aerosolized. Standard reference sources regarding industrial ventilation (e.g. ACGIH Industrial Ventilation Manual) should be consulted for guidance about adequate ventilation. To ensure that published exposure limits have not been exceeded, monitoring for airborne diisocyanate should become part of the overall employee exposure characterization program. NIOSH, OSHA, and others have developed sampling and analytical methods. These are available through various suppliers. Gaco Western does not supply these sampling methods directly.

Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Environmental manager must be informed of all major releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Brown liquid
Color:	Brown
Form:	Liquid

Odor:	Musty
Odor Threshold:	Not available
Physical State:	Liquid
pH (at 20°C):	Not applicable
Melting Point/Freezing Point:	Not available
Initial Boiling Point and Boiling Range:	406.4°F (208°C)
Flash Point:	388.4°F (198°C) ASTM D 93
Evaporation Rate:	Not available
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not available
Upper Flammability/Explosive Limit:	Not available
Evaporation rate:	Not available
Vapor Pressure (mm Hg @25°C):	<0.0001
Vapor Density:	Not available
Density (lb/gal):	10.279
Relative Density/Specific Gravity:	1.234
Solubility in water/miscibility:	Insoluble - reacts slowly with water to liberate CO_2 gas
Partition coefficient: n-octanol/water:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Viscosity (at 25°C) g/L:	150-250 mPa.s
Oxidizing Properties:	Not available
Explosive Properties:	Not available
VOC %:	Not available
Solvent content - Organic:	Not available
Solvent content - Water:	Not available
Solvent content - Solids:	Not available
Other information:	Not available
Incompatibilities:	Copper, copper alloy, galvanized surfaces, water, amines, strong bases, alcohols.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Chemical stability: Material is stable under normal conditions.

Materials to avoid: Copper, copper alloy, galvanized surfaces, water, amines, strong bases, alcohols. Moisture sensitive.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions: Moisture sensitive. Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F (177°C), may cause polymerizations.

10.4 CONDITIONS TO AVOID Contact with incompatible materials. Temperatures above 350°F (177°C).

10.5 INCOMPATIBLE MATERIALS Copper, copper alloy, galvanized surfaces, water, amines, strong bases, alcohols.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition products: By fire and high heat: Carbon dioxide (CO2), Carbon monoxide (CO),

oxides of nitrogen (NOx), dense black smoke, isocyanate, isocyanic acid, other undetermined compounds.

Hazardous polymerization: Moisture sensitive. Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F (177°C), may cause polymerizations.

Other information: Not available.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Harmful if inhaled. Skin irritation. May cause redness and pain. May cause allergic skin reaction. Dermatitis. Rash. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Difficulty breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Likely routes of exposure: Skin contact. Eye contact. Inhalation.

Eye: Causes eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.

Skin: Causes skin irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove. Contact with MDI can cause discoloration.

Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.

Inhalation: Diisocyanate vapors or mist at concentrations above the TLV or PEL can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

LD50/LC50 values relevant to this classification:

4,4'-Diphenylmethane Diisocyanate (MDI)

Oral rat LD50 >2,000 mg/kg bw
Oral rat LD50 >7,616 mg/kg bw
Oral rat LD50 >10,000 mg/kg bw
Inhal rat LC50 369 mg/m3 air 4hr
Inhal rat LC50 >300 mg/m3 air 4hr
Inhal rat LC50 >2.24 mg/L air 1hr

Inhal rat LC50 0.49 mg/L air 4hr
Derm rabbit LD50 >9,400 mg/kg bw

2,4'-Diphenylmethane Diisocyanate (MDI)
Oral rat LD50 >2,000 mg/kg bw
Oral rat LD50 >10,000 mg/kg bw
Inhal rat LC50 310 mg/m3 air 4hr
Inhal rat LC50 0.49 mg/L air 4hr
Inhal rat LD50 387-645 mg/m3 bw 4hr
Derm rabbit LD50 >9,400 mg/kg bw

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
490 mg/m3 (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Skin irritation. May cause redness and pain. May cause allergic skin reaction. Dermatitis. Rash.
Contact with MDI can cause discoloration. Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Serious eye damage/irritation: Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Respiratory sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitization: May cause allergic skin reaction. Dermatitis. Rash.

Symptoms and target organs: Prolonged exposure may cause chronic effects. Causes damage to organs (lungs) through prolonged or repeated (inhalation) exposure. Skin irritation. May cause redness and pain. May cause allergic skin reaction. Dermatitis. Rash. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Difficulty breathing. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Chronic health effects: Chronic: As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to isocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to isocyanates at levels well below the TLV or PEL. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Extreme asthmatic reactions can be life threatening. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Sensitization can be permanent. Chronic overexposure to isocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

Prolonged contact with skin can cause reddening, swelling, rash, and, in some cases, skin sensitization. Animal tests and other research indicate that skin contact with MDI can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to

prevent direct skin contact with isocyanates.

Prolonged vapor contact with the eyes may cause conjunctivitis.

Delayed: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

Carcinogenicity: This preparation does not contain a component that is considered a human carcinogen by IARC (International Agency for Research on Cancer), ACGIH (American Conference of Governmental Industrial Hygienists), OSHA (Occupational Safety and Health Administration) or NTP (National Toxicological Program).
Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m3) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.

Specific Target Organ Toxicity (STOT):

Single Exposure: May cause respiratory irritation.

Repeated Exposure: Causes damage to organs (lungs) through prolonged or repeated (inhalation) exposure.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Acute/Chronic toxicity: The product is 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.

Aquatic toxicity: The product is 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.

Environmental effects: The product is 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.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.
0%, exposure time: 28d, i.e. not readily degradable

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: Oncorhynchus mykiss (rainbow trout), exposure time: 112 d, <1 BCF
i.e. does not bioaccumulate

12.4 MOBILITY

Mobility: No data available.

Mobility in soil: No data available.

Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations. Incineration is the preferred method.

Contaminated packaging: Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

EU codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk (>5,000 lbs)

UN: NA3082

Proper shipping name: Other regulated substances, liquid, n.o.s. (4,4'-Diphenylmethane Diisocyanate (MDI))

Hazard class: 9 **Packing group:** PG III

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable Quantity:

4,4'-Diphenylmethane Diisocyanate (MDI) RQ: 5,040 kg (11,111 lbs)

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

The following components of this product are found at concentrations greater than or equal to 0.1% and are subject to SARA/CERCLA reporting requirements.

Material	SARA 302 (EHSs) TPQ	SARA 304 EHSs RQ	CERCLA RQ	SARA 313 listed	RCRA CODE	CAA 112(r) TQ
Polymeric Diphenylmethane Diisocyanate (pMDI)	Not listed	Not listed	Not listed	313	Not listed	Not listed
4,4'-Diphenylmethane Diisocyanate (MDI)	Not listed	Not listed	5,000	X	Not listed	Not listed

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Polymeric Diphenylmethane Diisocyanate (pMDI)	Not listed	Listed	Not listed	Listed	Listed	Listed	Listed
4,4'-Diphenylmethane Diisocyanate (MDI)	Not listed	Listed	Listed	Listed	Listed	Listed	Listed
2,4'-Diphenylmethane Diisocyanate (MDI)	Not listed	Listed	Not listed	Listed	Listed	Listed	Not listed

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	All substances are listed
Canada - NDSL	No substances are listed
EU - EINECS	All substances are listed
EU - ELINCS	No substances are listed
EU - NLP	No substances are listed
Australia – AICS	All substances are listed
China - EICSC	All substances are listed
Japan - ENCS	All substances are listed
Korea - KECI	All substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	All substances are listed
Philippine - PICCS	All substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D1A, D2A, D2B

MEXICO:

Hazard Classification: 2-1-1
Carcinogen Status: Not known

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) rating:

Health:	**2***
Flammability:	**1**
Physical:	**1**

NFPA 704 (National Fire Protection Association) rating:

Health	**2**
Fire	**1**
Reactivity	**1**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of preparation:	March 6, 2017
Version:	1.1
Revision Date:	March 6, 2017
Disclaimer:	We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.
Prepared by:	Gaco Western LLC

End of Safety Data Sheet

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: GACO 052N - POLYOL COMPONENT B

Product Code: F052N, F052N-55, F052N-450

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray Foam Insulation

Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA

Telephone Number: 800-331-0196 / **International**: 001-800-331-0196

Email: sds@gaco.com

Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Skin Corrosion/Irritation	2
Eye Damage/Irritation	1
Sensitization - Skin	1B
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure)	2

2.2 LABEL ELEMENTS

Hazard pictogram: GHS05, GHS07, GHS08

Signal word: Danger!

Hazard statement:
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye damage
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>

Prevention:
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/eye protection/face protection.

Response:
Specific treatment (see Section 8 on this label).
If on skin: Wash with plenty of water.
If skin irritation or a rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.

Storage: Store in a well-ventilated place. Keep container tightly closed.

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

2.3 ADDITIONAL INFORMATION

Main symptoms: Prolonged exposure may cause chronic effects. May cause allergic skin reaction. Dermatitis. Rash. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.

Hazards not otherwise specified: Harmful to aquatic life with long lasting effects

25 % of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
Glycerol, propylene oxide, ethylene oxide polymer	9082-00-2	10-30%
Nonylphenol polyethylene glycol ether	127087-87-0	7-10%
Dimethylaminoethoxyethanol	1704-62-7	1-5%
Tertiary Amines	None given	1-5%
1,2-Ethanediamine, polymer with 2-methyloxirane and oxirane	26316-40-5	1-5%
Diethylene glycol	111-46-6	1-5%
Bis(2-chloropropy1)1-chloro-2-propyl phosphate	76649-15-5	0.1-1.0%
N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)	3033-62-3	0.1-1.0%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. Wash contaminated clothing before reuse. In case of eczema or other skin disorders: Seek medical attention and bring along these instructions.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Prolonged exposure may cause chronic effects.
May cause allergic skin reaction. Dermatitis. Rash.
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.
Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Causes skin irritation. May cause redness and pain.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically.
Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: No unusual fire or explosion hazard.
Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)
Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.
Products of combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning-up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.

Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Prevent product from entering drains.

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.

Environmental precautions: Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Precautions for Safe handling: Observe good industrial hygiene practices.

General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Safe storage: Store away from incompatible materials.

Specific use: Spray Foam Insulation

Technical measures: No specific recommendations.

Incompatible materials: Acids, oxidizing agents, extreme temperatures.

Safe packaging material: No specific recommendations.

Precautions: Use personal protective recommended in Section 8 of the SDS.

Safe handling advice: Observe good industrial hygiene practices.

Suitable storage conditions: Store away from incompatible materials.

Handling-technical measures: No specific recommendations.

Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

Nonylphenol polyethylene glycol ether
OSHA: None

NIOSH: None
AIHA WEEL TWA 10 mg/m3

Diethylene glycol
OSHA: None
NIOSH:
REL: Ethylene glycol [Ceiling 50 ppm]

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels to an acceptable level.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General:	Use personal protective equipment as required.
Eye protection:	Wear safety glasses with side shields (or goggles) and a face shield.
Hand protection:	Wear appropriate chemical resistant gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection:	Wear appropriate chemical resistant clothing.
Hygiene measures:	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. Contaminated work clothing should not be allowed out of the workplace.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	low viscosity liquid
Color:	blue
Form:	Liquid
Odor:	mild amine-like
Odor Threshold:	Not applicable
Physical State:	Liquid
pH (at 20°C):	11.3
Melting Point/Freezing Point:	Not applicable
Initial Boiling Point and Boiling Range:	Not applicable
Flash Point:	>200°F/>93.3°C
Evaporation Rate:	Not applicable
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not applicable
Upper Flammability/Explosive Limit:	Not applicable
Vapor Pressure (mm Hg @38°C):	Not applicable
Vapor Density:	Not applicable
Density (lb/gal):	9.20
Relative Density/Specific Gravity:	1.10

Solubility in water/miscibility:	Not applicable
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	Not applicable
Viscosity (at 20°C) g/L:	250
Oxidizing Properties:	Not applicable
Explosive Properties:	Not applicable
VOC:	<65 g/L (<0.54 lb/gal)
Solvent content - Organic:	Not applicable
Solvent content - Water:	>19.5%
Solvent content - Solids:	71.2%
Other information:	Not applicable
Incompatibilities:	Acids, oxidizing agents, extreme temperatures.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Chemical stability: Material is stable under normal conditions.

Materials to avoid: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions: No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID Contact with incompatible materials.

10.5 INCOMPATIBLE MATERIALS Acids, oxidizing agents, extreme temperatures.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition products: No hazardous decomposition products are known.

Hazardous polymerization: Does not occur.

Other information: Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: May cause an allergic skin reaction. Dermatitis. Rash. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.

Likely routes of exposure: Skin contact. Eye contact. Inhalation.

Eye: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Skin: May cause an allergic skin reaction. Dermatitis. Rash. Causes skin irritation. May cause redness and pain.

Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.

Inhalation: Not an expected route of exposure. No adverse effects due to inhalation are expected.

LD50/LC50 values relevant to this classification:

Nonylphenol polyethylene glycol ether
Oral rat LD50 2980 mg/kg
Dermal rabbit LD50 2000-2991 mg/kg
Inhalation rat LC50 1.15 mg/l 4 hr

Dimethylaminoethoxyethanol
Oral rat LD50 2337 mg/kg
Oral rat LD50 2150 mg/kg bw
Oral rat LD50 2558 mg/kg bw
Oral rat LD50 >3000 mg/kg bw
Oral rat LD50 >5660 mg/kg bw
Inhal rat LC50 >72 ppm air 4hr
Inhal rat LC50 >8.7 mg/m3 air 8hr
Derm rabbit LD50 1663-2033 mg/kg bw
Derm rabbit LD50 1260 mg/kg bw
Dermal rabbit LD50 1334 mg/kg

Tertiary Amines
Oral rat LD50 1290 mg/kg bw
Inhalation rat LC50 >2.63 mg/l 1 hr
Dermal rabbit LD50 500-1000 mg/kg bw

1,2-Ethanediamine, polymer with 2-methyloxirane and oxirane
Oral rat LD50 > 5 000 mg/kg bw
Derm rabbit LD50 > 5 000 mg/kg bw

Diethylene glycol
Oral rat LD50 19600 mg/kg bw/day
Oral rat LD50 16500 mg/kg bw/day
Oral Human LD50 1120 mg/kg bw/day
Oral Rat LD50 >25300 mg/kg
Inhal rat LC50 > 4.6 mg/L air 4hr
Inhal Rat LC50 >5.06 mg/l
Derm rabbit LD50 13300 mg/kg bw
Dermal Rabbit LD50 12500 mg/kg

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
>5 mg/kg (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Causes skin irritation. May cause redness and pain.
Serious eye damage/irritation: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Respiratory sensitization: Based on available data, this product is not expected to cause respiratory sensitization.

Skin sensitization: May cause an allergic skin reaction. Dermatitis. Rash.

Symptoms and target organs: Prolonged exposure may cause chronic effects. May cause allergic skin reaction. Dermatitis. Rash. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.

Chronic health effects: Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Carcinogenicity: This product is not classified as a carcinogen.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.

Specific Target Organ Toxicity (STOT):

Single Exposure: Not classified as an STOT - Single Exposure.

Repeated Exposure: May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Ecotoxicity: Harmful to aquatic life with long lasting effects.

Acute aquatic toxicity: The product is not classified as acutely environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Chronic toxicity: Harmful to aquatic life with long lasting effects.

Environmental effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.

Mobility in soil: No data available.

Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in

accordance with all local, regional, national and international regulations.

EU codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk

Not classified as Dangerous Goods for Transport

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

No components of this product are found at concentrations greater than or equal to 0.1% and are subject to the SARA/CERCLA reporting requirements.

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration

and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Tertiary Amines	Not listed	Listed	Not listed	Not listed	Not listed	Not listed	Not listed
Diethylene glycol	Not listed	Not listed	Listed	Not listed	Not listed	Listed	Not listed
N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)	Not listed	Not listed	Not listed	Not listed	Listed	Not listed	Not listed
Ethylene Glycol	Dev	Listed	Listed	Not listed	Listed	Listed	Listed
1,4- Dioxane (trace)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
methyloxirane (trace)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
Ethylene Oxide (trace)	Cancer	Listed	Listed	Not listed	Not listed	Not listed	Listed

California:

Proposition 65:

WARNING: This product can expose you to 1,4- Dioxane, methyloxirane and Ethylene Oxide, which are known to the State of California to cause cancer, and Ethylene Glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	Not all substances are listed
Canada - NDSL	No substances are listed
EU - EINECS	Not all substances are listed
EU - ELINCS	No substances are listed
EU - NLP	At least 1 substance is listed
Australia – AICS	Not all substances are listed
China - EICSC	Not all substances are listed
Japan - ENCS	Not all substances are listed
Korea - KECI	Not all substances are listed
Taiwan - NECI	Not all substances are listed
New Zealand - NZIoC	Not all substances are listed
Philippine - PICCS	Not all substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D1B, D2B, E

MEXICO:

Hazard Classification: 3-1-0
Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) rating:

Health:	**3***
Flammability:	**1**
Physical:	**0**

NFPA 704 (National Fire Protection Association) rating:

Health	**3**
Fire	**1**
Reactivity	**0**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of preparation: September 20, 2017
Version: 1.0
Revision Date: September 20, 2017
Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not

be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Prepared by: Gaco Western LLC

End of Safety Data Sheet

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: GACO 183M - POLYOL COMPONENT B

Product Code: F183M, F183M-15, F183M-55, F183M-275, F183M-275A, F183M-480

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray Foam Insulation

Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA

Telephone Number: 800-331-0196 / **International**: 001-800-331-0196

Email: sds@gaco.com

Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Skin Corrosion/Irritation	2
Eye Damage/Irritation	1
Toxic to Reproduction	2
STOT SE - Specific Toxic Organ Toxicity (Single Exposure)	3
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure)	2

2.2 LABEL ELEMENTS

Hazard pictogram: GHS05, GHS07, GHS08

Signal word: Danger

Hazard statement:
Causes skin irritation
Causes serious eye damage
May cause drowsiness or dizziness
Suspected of damaging the unborn child
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:
Specific treatment (see Section 8 on this label).
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center/doctor if you feel unwell.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store locked up.

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

2.3 ADDITIONAL INFORMATION

Main symptoms: Prolonged exposure may cause chronic effects. Suspected of damaging the unborn child. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. Causes skin irritation. May cause redness and pain. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause drowsiness and dizziness. Headache. Nausea. Vomiting.

Hazards not otherwise specified: None Known

53 % of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
1,1,1,3,3-Pentafluoropropane	460-73-1	5-10%
Diethylene glycol	111-46-6	1-5%
Trans-dichloroethylene (mixed isomers)	156-60-5	1-5%
Pentamethyldiethylenetriamine	3030-47-5	1-5%
2-Butoxyethanol	111-76-2	0.1-1.0%
Pentamethyldipropylene triamine	3855-32-1	0.1-1.0%
Bis(2-chloropropy1)1-chloro-2-propyl phosphate	76649-15-5	0.1-1.0%
2-Ethylhexanoic acid, potassium salt	3164-85-0	0.1-1.0%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.

Skin contact: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Prolonged exposure may cause chronic effects.
Suspected of damaging the unborn child.
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.
Causes skin irritation. May cause redness and pain.
Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
May cause drowsiness and dizziness. Headache. Nausea. Vomiting.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically. Symptoms may be delayed.
Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: No unusual fire or explosion hazard.
Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)
Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.
Products of combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For personal protection, see Section 8 of this SDS.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning-up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.

Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Precautions for Safe handling: Observe good industrial hygiene practices.

General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Safe storage: Store away from incompatible materials.

Specific use: Spray Foam Insulation

Technical measures: No specific recommendations.

Incompatible materials: None known, avoid strong oxidizing agents.

Precautions: Use personal protective recommended in Section 8 of the SDS.

Safe handling advice: Observe good industrial hygiene practices.

Suitable storage conditions: Store away from incompatible materials.

Handling-technical measures: No specific recommendations.

Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

Diethylene glycol
OSHA: None
NIOSH:
REL: Ethylene glycol [Ceiling 50 ppm]

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:

Good general ventilation (typically 10 air changes per hour) should be used.

Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General:	Eyewash fountain and emergency showers are recommended. Use personal protective equipment as required.
Eye protection:	Wear safety glasses with side shields (or goggles) and a face shield.
Hand protection:	Wear appropriate chemical resistant gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection:	Wear suitable protective clothing.
Hygiene measures:	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.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Environmental manager must be informed of all major releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous Brown Liquid
Color:	Brown
Form:	Liquid
Odor:	Mild amine
Odor Threshold:	Not applicable
Physical State:	Liquid
pH (at 20°C):	9.61
Melting Point/Freezing Point:	Not applicable
Initial Boiling Point and Boiling Range:	Not applicable
Flash Point:	>200°F/>93.3°C
Evaporation Rate:	Not applicable
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not applicable
Upper Flammability/Explosive Limit:	Not applicable
Vapor Pressure (mm Hg @38°C):	Not applicable
Vapor Density:	Not applicable
Density (lb/gal):	9.94
Relative Density/Specific Gravity:	1.19
Solubility in water/miscibility:	Low solubility in water
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	Not applicable
Viscosity (at 20°C) g/L:	700 cps
Oxidizing Properties:	Not applicable
Explosive Properties:	Not applicable
VOC:	<55 g/L (<0.46 lb/gal)
Solvent content - Organic:	Not applicable
Solvent content - Water:	Not applicable
Solvent content - Solids:	85.19%

Other information: Not applicable
Incompatibilities: None known, avoid strong oxidizing agents.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY
Chemical stability: Material is stable under normal conditions.
Materials to avoid: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS
Hazardous reactions: No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID Contact with incompatible materials.

10.5 INCOMPATIBLE MATERIALS None known, avoid strong oxidizing agents.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous decomposition products: No hazardous decomposition products are known.
Hazardous polymerization: Does not occur.

Other information: Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Causes skin irritation. May cause redness and pain. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause drowsiness and dizziness. Headache. Nausea. Vomiting.
Likely routes of exposure: Skin contact. Eye contact. Inhalation.
Eye: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Skin: Causes skin irritation. May cause redness and pain.
Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.
Inhalation: May cause drowsiness and dizziness. Headache. Nausea. Vomiting.

LD50/LC50 values relevant to this classification:

1,1,1,3,3-Pentafluoropropane
Inhal rat LC50 >200,000 ppm 4hr No deaths, evidence of transient anesthetic effect.
Inhal rat LC50 >100,000 ppm 4hr No deaths, evidence of transient underactivity during exposure.
Derm rabbit >2000 mg/kg bw

Diethylene glycol
Oral rat LD50 19600 mg/kg bw/day
Oral rat LD50 16500 mg/kg bw/day
Oral Human LD50 1120 mg/kg bw/day
Oral Rat LD50 >25300 mg/kg

Inhal rat LC50 > 4.6 mg/L air 4hr
Inhal Rat LC50 >5.06 mg/l
Derm rabbit LD50 13300 mg/kg bw
Dermal Rabbit LD50 12500 mg/kg

Pentamethyldiethylenetriamine
Oral rat LD50 1330 mg/kg bw
Inhal rat LC50 290 ppm = 2055.5 mg/m3
Inhal rat LC50 8.38 mg/L air (nominal)
Derm rabbit LD50 > 200 < 1000 mg/kg bw
Derm rabbit >200 mg/kg = no effect

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
>5 mg/kg (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Based on available data, this product is not expected to cause skin corrosion or irritation. Prolonged skin contact may cause dryness, redness, or cracking.

Serious eye damage/irritation: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Respiratory sensitization: Based on available data, this product is not expected to cause respiratory sensitization.

Skin sensitization: Based on available data, this product is not expected to cause skin sensitization.

Symptoms and target organs: Prolonged exposure may cause chronic effects. Suspected of damaging the unborn child. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. Causes skin irritation. May cause redness and pain. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause drowsiness and dizziness. Headache. Nausea. Vomiting.

Chronic health effects: Prolonged exposure may cause chronic effects. Suspected of damaging the unborn child. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Carcinogenicity: This product is not classified as a carcinogen. Due to the form of the product, exposure to the potentially carcinogenic components is not expected.

Material	OSHA(O)	ACGIH(G)	NTP(N)	IARC(I)
Diethylene glycol	Not listed	A3	Not listed	3
2-Butoxyethanol	Not listed	A3	Not listed	3

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (O) =Occupational Safety and Health Administration
Ca/Yes = Expected to be carcinogenic
not listed = Not expected to be carcinogenic

ACGIH (G) =American Conference of Governmental Industrial Hygienists
A1 =Confirmed human carcinogen
A2 =Suspected human carcinogen
A3 =Animal carcinogen
A4 =Not classifiable as a human carcinogen
A5 =Not suspected as a human carcinogen
not listed = Not expected to be carcinogenic

NTP (N) =National Toxicology Program
K =Known to be a carcinogen
R = Reasonably anticipated to be a carcinogen
not listed = Not expected to be carcinogenic

IARC (I) =International Agency for Research on Cancer
1 =Carcinogenic to humans
2A =Probably carcinogenic to humans
2B =Possibly carcinogenic to humans
3 =Not classifiable as to its carcinogenicity to humans
4 =Probably not carcinogenic to humans
not listed = Not expected to be carcinogenic

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: Prolonged exposure may cause chronic effects. Suspected of damaging the

unborn child.

Specific Target Organ Toxicity (STOT):

Single Exposure: May cause drowsiness and dizziness. Headache. Nausea. Vomiting.

Repeated Exposure: May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Ecotoxicity: The product is 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.

Acute aquatic toxicity: The product is not classified as acutely environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Chronic toxicity: The product is not classified as having a chronic environmental hazard. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Environmental effects: The product is 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.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.

Mobility in soil: No data available.

Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in accordance with all local, regional, national and international regulations.

EU codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk

Not classified as Dangerous Goods for Transport

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

The following components of this product are found at concentrations greater than or equal to 0.1% and are subject to SARA/CERCLA reporting requirements.

Material	SARA 302 (EHSs) TPQ	SARA 304 EHSs RQ	CERCLA RQ	SARA 313 listed	RCRA CODE	CAA 112(r) TQ
Trans-dichloroethylene (mixed isomers)	Not listed	Not listed	1,000	Not listed	U079	Not listed

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know

Diethylene glycol	Not listed	Not listed	Listed	Not listed	Not listed	Listed	Not listed
Trans-dichloroethylene (mixed isomers)	Not listed	Listed	Not listed	Not listed	Not listed	Listed	Listed
2,2'-(Ethylenedioxy)diethanol	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
2-Butoxyethanol	Not listed	Listed	Listed	Not listed	Not listed	Listed	Not listed
2-Ethoxyethanol (trace)	Dev	Listed	Listed	Not listed	Listed	Listed	Listed
2,2'-Iminodiethanol diethanolamine (trace)	Cancer	Listed	Listed	Not listed	Listed	Listed	Listed
Formaldehyde (trace)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
Dichloromethane (trace)	Cancer	Listed	Listed	Not listed	Not listed	Listed	Listed

California:

California South Coast Air Quality Management District (SCAQMD):

This product contains 1,1,1,3,3-Pentafluoropropane, a substance that is regulated or restricted for specific applications when applied in areas that are subject to SCAQMD Rule 1168 or Rule 1113. Please consult a local Air Quality regulator or SCAQMD http://www.aqmd.gov/ to determine if your application is subject to these rules and therefore subject to the restrictions or prohibitions of use.

Proposition 65:

WARNING: This product can expose you to chemicals including 2,2'-Iminodiethanol, diethanolamine, Formaldehyde, Dichloromethane, which are known to the State of California to cause cancer, and 2-Ethoxyethanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	All substances are listed
Canada - NDSL	No substances are listed
EU - EINECS	Not all substances are listed
EU - ELINCS	No substances are listed
EU - NLP	At least 1 substance is listed
Australia – AICS	Not all substances are listed
China - EICSC	Not all substances are listed
Japan - ENCS	Not all substances are listed
Korea - KECI	Not all substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	Not all substances are listed
Philippine - PICCS	Not all substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D2A, D2B, E

MEXICO:

Hazard Classification: 3-1-0

Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

Health:	**3***
Flammability:	**1**
Physical:	**0**

NFPA 704 (National Fire Protection Association) rating:

Health	**3**
Fire	**1**
Reactivity	**0**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of preparation: September 20, 2017
Version: 1.0
Revision Date: September 20, 2017
Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.
Prepared by: Gaco Western LLC

End of Safety Data Sheet

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: GacoOnePass - POLYOL COMPONENT B
Product Code: F1850R, F1850R-55, F1850R-275

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray Foam Insulation
Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA
Telephone Number: 800-331-0196 / **International**: 001-800-331-0196
Email: sds@gaco.com
Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Skin Corrosion/Irritation	2
Eye Damage/Irritation	2A
Toxic to Reproduction	2
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure)	2

2.2 LABEL ELEMENTS

Hazard pictogram: GHS07, GHS08

Signal word: Warning

Hazard statement:
Causes skin irritation
Causes serious eye irritation
Suspected of damaging the unborn child
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:
Specific treatment (see Section 8 on this label).
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Storage: Store locked up.

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

2.3 ADDITIONAL INFORMATION

Main symptoms: Prolonged exposure may cause chronic effects. Suspected of damaging the unborn child. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. Causes skin irritation. May cause redness and pain. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Hazards not otherwise specified: None Known

73 % of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene glycol	77098-07-8	1-5%
Diethylene glycol	111-46-6	1-5%
2,2'-(Ethylenedioxy)diethanol	112-27-6	1-5%
Pentamethyldiethylenetriamine	3030-47-5	0.5-1.5%
Pentamethyldipropylene triamine	3855-32-1	0.1-1.0%
Tertiary Amine	Not given	0.1-1.0%
1,4-Diazabicyclooctane	280-57-9	0.1-1.0%
2-Ethylhexanoic acid, potassium salt	3164-85-0	0.1-1.0%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Prolonged exposure may cause chronic effects.
Suspected of damaging the unborn child.
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.
Causes skin irritation. May cause redness and pain.
Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically. Symptoms may be delayed.
Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: No unusual fire or explosion hazard.
Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)
Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.
Products of combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For personal protection, see Section 8 of this SDS.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning-up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.

Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Precautions for Safe handling: Observe good industrial hygiene practices.

General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Safe storage: Store away from incompatible materials.

Specific use: Spray Foam Insulation

Technical measures: No specific recommendations.

Incompatible materials: None known, avoid strong oxidizing agents.

Safe packaging material: No specific recommendations.

Precautions: Use personal protective recommended in Section 8 of the SDS.

Safe handling advice: Observe good industrial hygiene practices.

Suitable storage conditions: Store away from incompatible materials.

Handling-technical measures: No specific recommendations.

Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene glycol
ACGIH: 0.15 ppm

Diethylene glycol
NIOSH REL: Ethylene glycol [Ceiling 50 ppm]
OSHA PEL †: none

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General:	Use personal protective equipment as required.
Eye protection:	Wear safety glasses with side shields (or goggles).
Hand protection:	Wear appropriate chemical resistant gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection:	Wear suitable protective clothing.
Hygiene measures:	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.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Environmental manager must be informed of all major releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Low viscosity brown liquid
Color:	Brown
Form:	Liquid
Odor:	Mild amine
Odor Threshold:	Not applicable
Physical State:	Liquid
pH (at 20°C):	9.7
Melting Point/Freezing Point:	Not applicable
Initial Boiling Point and Boiling Range:	Not applicable
Flash Point:	>200°F/>93.3°C
Evaporation Rate:	Not applicable
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not applicable
Upper Flammability/Explosive Limit:	Not applicable
Vapor Pressure (mm Hg @38°C):	Not applicable
Vapor Density:	Not applicable
Density (lb/gal):	10.16
Relative Density/Specific Gravity:	1.22
Solubility in water/miscibility:	Soluble
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	Not applicable
Viscosity (at 77°F) g/L:	796
Oxidizing Properties:	Not applicable
Explosive Properties:	Not applicable
VOC:	<20 g/L (<0.17 lb/gal)
Solvent content - Organic:	Not applicable
Solvent content - Water:	Not applicable
Solvent content - Solids:	1-5%
Other information:	Not applicable

Incompatibilities: None known, avoid strong oxidizing agents.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Chemical stability: Material is stable under normal conditions.

Materials to avoid: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions: No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID Contact with incompatible materials.

10.5 INCOMPATIBLE MATERIALS None known, avoid strong oxidizing agents.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition products: No hazardous decomposition products are known.

Hazardous polymerization: Does not occur.

Other information: Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Causes skin irritation. May cause redness and pain. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Likely routes of exposure: Skin contact. Eye contact. Inhalation.

Eye: Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Skin: Causes skin irritation. May cause redness and pain.

Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.

Inhalation: Not an expected route of exposure. No adverse effects due to inhalation are expected.

LD50/LC50 values relevant to this classification:

1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene glycol

Oral rat LD50 632 mg/kg bw
Inhal rat LC50 >17,800 mg/L air 1hr
Derm rabbit LD50 >5,000 mg/kg bw

Diethylene glycol

Oral rat LD50 19600 mg/kg bw/day
Oral rat LD50 16500 mg/kg bw/day
Oral Human LD50 1120 mg/kg bw/day
Oral Rat LD50 >25300 mg/kg
Inhal rat LC50 > 4.6 mg/L air 4hr

Inhal Rat LC50 >5.06 mg/l
Derm rabbit LD50 13300 mg/kg bw
Dermal Rabbit LD50 12500 mg/kg

Pentamethyldiethylenetriamine
Oral rat LD50 1330 mg/kg bw
Inhal rat LC50 290 ppm = 2055.5 mg/m3
Inhal rat LC50 8.38 mg/L air (nominal)
Derm rabbit LD50 > 200 < 1000 mg/kg bw

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
>5 mg/kg (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Causes skin irritation. May cause redness and pain.

Serious eye damage/irritation: Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Respiratory sensitization: Based on available data, this product is not expected to cause respiratory sensitization.

Skin sensitization: Based on available data, this product is not expected to cause skin sensitization.

Symptoms and target organs: Prolonged exposure may cause chronic effects. Suspected of damaging the unborn child. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. Causes skin irritation. May cause redness and pain. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Chronic health effects: Prolonged exposure may cause chronic effects. Suspected of damaging the unborn child. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Carcinogenicity: This product is not classified as a carcinogen. Due to the form of the product, exposure to the potentially carcinogenic components is not expected.

Material	OSHA(O)	ACGIH(G)	NTP(N)	IARC(I)
Diethylene glycol	Not listed	A3	Not listed	3

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (O) =Occupational Safety and Health Administration
Ca/Yes = Expected to be carcinogenic
not listed = Not expected to be carcinogenic

ACGIH (G) =American Conference of Governmental Industrial Hygienists
A1 =Confirmed human carcinogen
A2 =Suspected human carcinogen
A3 =Animal carcinogen
A4 =Not classifiable as a human carcinogen
A5 =Not suspected as a human carcinogen
not listed = Not expected to be carcinogenic

NTP (N) =National Toxicology Program
K =Known to be a carcinogen
R = Reasonably anticipated to be a carcinogen
not listed = Not expected to be carcinogenic

IARC (I) =International Agency for Research on Cancer
1 =Carcinogenic to humans
2A =Probably carcinogenic to humans
2B =Possibly carcinogenic to humans
3 =Not classifiable as to its carcinogenicity to humans
4 =Probably not carcinogenic to humans
not listed = Not expected to be carcinogenic

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: Suspected of damaging the unborn child.

Specific Target Organ Toxicity (STOT):

Single Exposure: Not classified as an STOT - Single Exposure.

Repeated Exposure: May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Ecotoxicity: The product is 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.

Acute aquatic toxicity: The product is not classified as acutely environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Chronic toxicity: The product is not classified as having a chronic environmental hazard. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Environmental effects: The product is 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.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.

Mobility in soil: No data available.

Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in accordance with all local, regional, national and international regulations.

EU codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk

Not classified as Dangerous Goods for Transport

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

No components of this product are found at concentrations greater than or equal to 0.1% and are subject to the SARA/CERCLA reporting requirements.

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Diethylene glycol	Not listed	Not listed	Listed	Not listed	Not listed	Listed	Not listed
2,2'-(Ethylenedioxy)diethanol	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
Oxydipropanol	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
1,1,1,2,3,3,3-heptafluoropropane	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
Ethylene Glycol (trace)	Dev	Listed	Listed	Not listed	Listed	Listed	Listed
1,4- Dioxane (trace)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed

California:

Proposition 65:

WARNING: This product can expose you to 1,4- Dioxane, which is known to the State of

California to cause cancer, and Ethylene Glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	All substances are listed
Canada - NDSL	No substances are listed
EU - EINECS	All substances are listed
EU - ELINCS	No substances are listed
EU - NLP	No substances are listed
Australia – AICS	All substances are listed
China - EICSC	All substances are listed
Japan - ENCS	Not all substances are listed
Korea - KECI	All substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	All substances are listed
Philippine - PICCS	All substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D1B, D2A, D2B

MEXICO:

Hazard Classification: 2-1-0

Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) rating:

Health:	**2***
Flammability:	**1**
Physical:	**0**

NFPA 704 (National Fire Protection Association) rating:

Health	**2**
Fire	**1**
Reactivity	**0**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of preparation: February 22, 2017
Version: 1.0
Revision Date: February 22, 2017
Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.
Prepared by: Gaco Western LLC

End of Safety Data Sheet

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: F1880R POLYOL COMPONENT B

Product Code: F1880R, F1880R-500

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray Foam Insulation

Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA

Telephone Number: 800-331-0196 / **International**: 001-800-331-0196

Email: sds@gaco.com

Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Skin Corrosion/Irritation	2
Eye Damage/Irritation	2A
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure)	2

2.2 LABEL ELEMENTS

Hazard pictogram: GHS07, GHS08

Signal word: Warning

Hazard statement:
Causes skin irritation
Causes serious eye irritation
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>

Prevention:
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Wear protective gloves/eye protection/face protection.

Response:
Specific treatment (see Section 8 on this label).
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Storage: Store away from incompatible materials.

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

2.3 ADDITIONAL INFORMATION

Main symptoms: Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. Causes skin irritation. May cause redness and pain. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Hazards not otherwise specified: None Known

68 % of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene glycol	77098-07-8	1-5%
Diethylene glycol	111-46-6	1-5%
2,2'-(Ethylenedioxy)diethanol	112-27-6	1-5%
Pentamethyldiethylenetriamine	3030-47-5	0.5-1.5%
Pentamethyldipropylene triamine	3855-32-1	0.1-1.0%
Tertiary Amine	N/A	0.1-1.0%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Prolonged exposure may cause chronic effects.
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.
Causes skin irritation. May cause redness and pain.
Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically. Symptoms may be delayed.
Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: No unusual fire or explosion hazard.
Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)
Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.
Products of combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters:
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For personal protection, see Section 8 of this SDS.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
Methods for cleaning-up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.

Large spills:	Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.
Small spills:	Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
Environmental precautions:	Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Precautions for Safe handling:	Observe good industrial hygiene practices.
General hygiene advice:	Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Safe storage:	Store away from incompatible materials.
Specific use:	Spray Foam Insulation
Technical measures:	No specific recommendations.
Incompatible materials:	None known, avoid strong oxidizing agents.
Safe packaging material:	No specific recommendations.
Precautions:	Use personal protective recommended in Section 8 of the SDS.
Safe handling advice:	Observe good industrial hygiene practices.
Suitable storage conditions:	Store away from incompatible materials.
Handling-technical measures:	No specific recommendations.
Local and general ventilation:	Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene glycol
ACGIH: 0.15 ppm

Diethylene glycol
NIOSH REL: Ethylene glycol [Ceiling 50 ppm]
OSHA PEL †: none

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable

level.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General:	Use personal protective equipment as required.
Eye protection:	Wear safety glasses with side shields (or goggles).
Hand protection:	Wear appropriate chemical resistant gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection:	Wear suitable protective clothing.
Hygiene measures:	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.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Environmental manager must be informed of all major releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Slightly viscous liquid
Color:	Light Brown
Form:	Liquid
Odor:	Mild amine
Odor Threshold:	Not applicable
Physical State:	Liquid
pH (at 20°C):	9-10
Melting Point/Freezing Point:	Not applicable
Initial Boiling Point and Boiling Range:	Not applicable
Flash Point:	>200°F/>93.3°C
Evaporation Rate:	Not applicable
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not applicable
Upper Flammability/Explosive Limit:	Not applicable
Vapor Pressure (mm Hg @38°C):	Not applicable
Vapor Density:	Not applicable
Density (lb/gal):	10.23
Relative Density/Specific Gravity:	1.23
Solubility in water/miscibility:	Soluble
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	Not applicable
Viscosity (at 25°C) g/L:	1100 cPs
Oxidizing Properties:	Not applicable
Explosive Properties:	Not applicable
VOC:	<25 g/L (<0.21 lb/gal)
Solvent content - Organic:	Not applicable
Solvent content - Water:	Not applicable
Solvent content - Solids:	86%
Other information:	Not applicable
Incompatibilities:	None known, avoid strong oxidizing agents.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Chemical stability: Material is stable under normal conditions.

Materials to avoid: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions: No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID Contact with incompatible materials.

10.5 INCOMPATIBLE MATERIALS None known, avoid strong oxidizing agents.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition products: No hazardous decomposition products are known.

Hazardous polymerization: Does not occur.

Other information: Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Causes skin irritation. May cause redness and pain. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Likely routes of exposure: Skin contact. Eye contact. Inhalation.

Eye: Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Skin: Causes skin irritation. May cause redness and pain.

Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.

Inhalation: Not an expected route of exposure. No adverse effects due to inhalation are expected.

LD50/LC50 values relevant to this classification:

1,2-Benzenedicarboxylic acid, 3,4,5,6-tetrabromo-, mixed esters with diethylene glycol and propylene glycol

Oral rat LD50 632 mg/kg bw
Inhal rat LC50 >17,800 mg/L air 1hr
Derm rabbit LD50 >5,000 mg/kg bw

Diethylene glycol

Oral rat LD50 19600 mg/kg bw/day
Oral rat LD50 16500 mg/kg bw/day
Oral Human LD50 1120 mg/kg bw/day
Oral Rat LD50 >25300 mg/kg
Inhal rat LC50 > 4.6 mg/L air 4hr
Inhal Rat LC50 >5.06 mg/l
Derm rabbit LD50 13300 mg/kg bw
Dermal Rabbit LD50 12500 mg/kg

Pentamethyldiethylenetriamine

Oral rat LD50 1330 mg/kg bw
Inhal rat LC50 290 ppm = 2055.5 mg/m3
Inhal rat LC50 8.38 mg/L air (nominal)
Derm rabbit LD50 > 200 < 1000 mg/kg bw

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
>5 mg/kg (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Causes skin irritation. May cause redness and pain.

Serious eye damage/irritation: Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Respiratory sensitization: Based on available data, this product is not expected to cause respiratory sensitization.

Skin sensitization: Based on available data, this product is not expected to cause skin sensitization.

Symptoms and target organs: Prolonged exposure may cause chronic effects. Suspected of damaging the unborn child. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. Causes skin irritation. May cause redness and pain. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Chronic health effects: Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Carcinogenicity: This product is not classified as a carcinogen. Due to the form of the product, exposure to the potentially carcinogenic components is not expected.

Material	OSHA(O)	ACGIH(G)	NTP(N)	IARC(I)
Diethylene glycol	Not listed	A3	Not listed	3

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (O) =Occupational Safety and Health Administration
Ca/Yes = Expected to be carcinogenic
not listed = Not expected to be carcinogenic

ACGIH (G) =American Conference of Governmental Industrial Hygienists
A1 =Confirmed human carcinogen
A2 =Suspected human carcinogen
A3 =Animal carcinogen
A4 =Not classifiable as a human carcinogen
A5 =Not suspected as a human carcinogen
not listed = Not expected to be carcinogenic

NTP (N) =National Toxicology Program
K =Known to be a carcinogen
R = Reasonably anticipated to be a carcinogen
not listed = Not expected to be carcinogenic

IARC (I) =International Agency for Research on Cancer
1 =Carcinogenic to humans
2A =Probably carcinogenic to humans
2B =Possibly carcinogenic to humans
3 =Not classifiable as to its carcinogenicity to humans
4 =Probably not carcinogenic to humans
not listed = Not expected to be carcinogenic

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.

Specific Target Organ Toxicity (STOT):

Single Exposure: Not classified as an STOT - Single Exposure.

Repeated Exposure: May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Ecotoxicity: The product is 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.

Acute aquatic toxicity: The product is not classified as acutely environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Chronic toxicity: The product is not classified as having a chronic environmental hazard. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Environmental effects: The product is 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.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.

Mobility in soil: No data available.

Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in accordance with all local, regional, national and international regulations.

EU codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk

Not classified as Dangerous Goods for Transport

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

No components of this product are found at concentrations greater than or equal to 0.1% and are subject to the SARA/CERCLA reporting requirements.

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Diethylene glycol	Not listed	Not listed	Listed	Not listed	Not listed	Listed	Not listed
2,2'-(Ethylenedioxy)diethanol	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
Oxydipropanol	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
Ethylene Glycol (trace)	Dev	Listed	Listed	Not listed	Listed	Listed	Listed
1,4- Dioxane (trace)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed

California:

Proposition 65:

WARNING: This product can expose you to 1,4- Dioxane, which is known to the State of California to cause cancer, and Ethylene Glycol, which is known to the State of California to

cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	All substances are listed
Canada - NDSL	No substances are listed
EU - EINECS	All substances are listed
EU - ELINCS	No substances are listed
EU - NLP	No substances are listed
Australia – AICS	All substances are listed
China - EICSC	All substances are listed
Japan - ENCS	Not all substances are listed
Korea - KECI	All substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	All substances are listed
Philippine - PICCS	All substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D1B, D2A, D2B

MEXICO:

Hazard Classification: 2-1-0
Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) rating:

Health:	**2***
Flammability:	**1**
Physical:	**0**

NFPA 704 (National Fire Protection Association) rating:

Health	**2**
Fire	**1**
Reactivity	**0**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of preparation: October 4, 2017
Version: 1.0
Revision Date: October 4, 2017
Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.
Prepared by: Gaco Western LLC

End of Safety Data Sheet

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: GacoRoofFoam - POLYOL COMPONENT B

Product Code: F2733R, F2733R-55

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray Foam Insulation

Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA

Telephone Number: 800-331-0196 / **International**: 001-800-331-0196

Email: sds@gaco.com

Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Skin Corrosion/Irritation	2
Eye Damage/Irritation	1
Toxic to Reproduction	1B
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure)	2

2.2 LABEL ELEMENTS

Hazard pictogram: GHS05; GHS08

Signal word: Danger

Hazard statement:
Causes skin irritation
Causes serious eye damage
Suspected of damaging the unborn child
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:
Get Medical advice/attention if you feel unwell.
Specific treatment (see Section 8 on this label).
If on skin: Wash with plenty of water.
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.

Storage: Store locked up.

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

2.3 ADDITIONAL INFORMATION

Main symptoms: May damage the unborn child. Skin irritation. Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. May cause redness and pain. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Hazards not otherwise specified: None Known

39 % of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
Amine Polyol	940912-28-7	10-30%
Aeromatic polyester polyol	70749-97-2	10-30%
Diethylene glycol	111-46-6	1-5%
Glycerol, propylene oxide, ethylene oxide polymer	9082-00-2	1-5%
2-Dimethylaminoethanol	108-01-0	1-5%
N,N-dimethylformamide	68-12-2	0.1-1.0%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact: Wash with plenty of soap and water. If skin irritation occurs, get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

May damage the unborn child.
Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.
Skin irritation. May cause redness and pain.
Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically. Symptoms may be delayed.
Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: No unusual fire or explosion hazard.
Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)
Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.
Products of combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For personal protection, see Section 8 of this SDS.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning-up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.

Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.

Environmental precautions: Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Precautions for Safe handling: Observe good industrial hygiene practices.

General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Safe storage: Store away from incompatible materials.

Specific use: Spray Foam Insulation

Technical measures: No specific recommendations.

Incompatible materials: Acids, oxidizing agents, extreme temperatures.

Safe packaging material: No specific recommendations.

Precautions: Use personal protective recommended in Section 8 of the SDS.

Safe handling advice: Observe good industrial hygiene practices.

Suitable storage conditions: Store away from incompatible materials.

Handling-technical measures: No specific recommendations.

Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

Diethylene glycol
NIOSH REL: Ethylene glycol [Ceiling 50 ppm]
OSHA PEL †: none

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure

limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General:	Use personal protective equipment as required.
Eye protection:	Wear safety glasses with side shields (or goggles).
Hand protection:	Wear appropriate chemical resistant gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection:	Wear suitable protective clothing.
Hygiene measures:	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.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Environmental manager must be informed of all major releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Slightly viscous blue-green liquid
Color:	Blue-green
Form:	Liquid
Odor:	Amine-like
Odor Threshold:	Not available
Physical State:	Liquid
pH (at 20°C):	9.8
Melting Point/Freezing Point:	Not available
Initial Boiling Point and Boiling Range:	Not available
Flash Point:	Not available
Evaporation Rate:	Not available
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not available
Upper Flammability/Explosive Limit:	Not available
Vapor Pressure (mm Hg @38°C):	Not available
Vapor Density:	Not available
Density (lb/gal):	9.577
Relative Density/Specific Gravity:	1.497
Solubility in water/miscibility:	soluble
Partition coefficient: n-octanol/water:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Viscosity (at 25°C) g/L:	1150 cu
Oxidizing Properties:	Not available
Explosive Properties:	Not available
VOC:	1.22 g/l
Solvent content - Organic:	0%
Solvent content - Water:	1.55%
Solvent content - Solids:	47.7%
Other information:	Not available
Incompatibilities:	Acids, oxidizing agents, extreme temperatures.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Chemical stability: Material is stable under normal conditions.

Materials to avoid: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions: No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID Contact with incompatible materials.

10.5 INCOMPATIBLE MATERIALS Acids, oxidizing agents, extreme temperatures.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition products: No hazardous decomposition products are known.

Hazardous polymerization: Does not occur.

Other information: Not available.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Causes skin irritation. Causes serious eye damage.

Likely routes of exposure: Skin contact. Eye contact. Inhalation.

Eye: Causes serious eye damage.

Skin: Causes skin irritation.

Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.

Inhalation: Not an expected route of exposure. No adverse effects due to inhalation are expected.

LD50/LC50 values relevant to this classification:

Diethylene glycol

Oral rat LD50 19600 mg/kg bw/day
Oral rat LD50 16500 mg/kg bw/day
Oral Human LD50 1120 mg/kg bw/day
Oral rat LD50 >25300 mg/kg
Inhal rat LC50 > 4.6 mg/L air 4hr
Inhal rat LC50 >5.06 mg/l
Derm rabbit LD50 13300 mg/kg bw
Dermal Rabbit LD50 12500 mg/kg

2-Dimethylaminoethanol

Oral rat LD50 1203.2-1220.1 mg/kg bw
Oral rat LD0 >1000 mg/kg bw
Oral rat LD50 2140 mg/kg bw
Oral rat LD50 2083 mg/kg bw
Inhal rat LC50 1641 ppm 4d

Derm rabbit LD50 >3000 mg/kg bw
Derm rabbit LD50 1219 mg/kg bw

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
>5 mg/kg (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Causes irritation. May cause redness and pain.

Serious eye damage/irritation: Causes serious eye damage.

Respiratory sensitization: Based on available data, this product is not expected to cause respiratory sensitization.

Skin sensitization: Based on available data, this product is not expected to cause skin sensitization.

Symptoms and target organs: May damage the unborn child. Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. Skin irritation. May cause redness and pain. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Chronic health effects: May damage the unborn child. Prolonged exposure may cause chronic effects. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Carcinogenicity: This product is not classified as a carcinogen. Due to the form of the product, exposure to the potentially carcinogenic components is not expected.

Material	OSHA(O)	ACGIH(G)	NTP(N)	IARC(I)
Diethylene glycol	Not listed	A3	Not listed	3

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (O) =Occupational Safety and Health Administration
Ca/Yes = Expected to be carcinogenic
not listed = Not expected to be carcinogenic

ACGIH (G) =American Conference of Governmental Industrial Hygienists
A1 =Confirmed human carcinogen
A2 =Suspected human carcinogen
A3 =Animal carcinogen
A4 =Not classifiable as a human carcinogen
A5 =Not suspected as a human carcinogen
not listed = Not expected to be carcinogenic

NTP (N) =National Toxicology Program
K =Known to be a carcinogen
R = Reasonably anticipated to be a carcinogen
not listed = Not expected to be carcinogenic

IARC (I) =International Agency for Research on Cancer
1 =Carcinogenic to humans
2A =Probably carcinogenic to humans
2B =Possibly carcinogenic to humans
3 =Not classifiable as to its carcinogenicity to humans
4 =Probably not carcinogenic to humans
not listed = Not expected to be carcinogenic

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: May damage the unborn child.

Specific Target Organ Toxicity (STOT):

Single Exposure: Not classified as an STOT - Single Exposure.

Repeated Exposure: May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Ecotoxicity: The product is 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.

Acute aquatic toxicity: The product is not classified as acutely environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Chronic toxicity: The product is not classified as having a chronic environmental hazard. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Environmental effects: The product is 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.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.
Mobility in soil: No data available.
Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in accordance with all local, regional, national and international regulations.

EU codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk

Not classified as Dangerous Goods for Transport

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

The following components of this product are found at concentrations greater than or equal to 0.1% and are subject to SARA/CERCLA reporting requirements.

Material	SARA 302 (EHSs) TPQ	SARA 304 EHSs RQ	CERCLA RQ	SARA 313 listed	RCRA CODE	CAA 112(r) TQ
N,N-dimethylformamide	Not listed	Not listed	100	X	Not listed	Not listed

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Diethylene glycol	Not listed	Not listed	Listed	Not listed	Not listed	Listed	Not listed
2-Dimethylaminoethanol	Not listed	Listed	Not listed	Not listed	Not listed	Listed	Not listed
2,2'-(Ethylenedioxy)diethanol	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
Cyclohexyldimethylamine	Not listed	Not listed	Not listed	Not listed	Listed	Not listed	Not listed
N,N-dimethylformamide	Not listed	Listed	Listed	Not listed	Listed	Not listed	Listed
1,4- Dioxane (trace amounts)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
methyloxirane (trace amounts)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
Dichloromethane (trace amounts)	Cancer	Listed	Listed	Listed	Notlisted	Listed	Listed
Ethylene Oxide (trace amounts)	Cancer	Listed	Listed	Not listed	Not listed	Listed	Listed
Formaldehyde (trace amounts)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed

Global Inventories:

Notification status:	
US - TSCA	All substances are listed

Canada -DSL	Not all substances are listed
Canada - NDSL	At least 1 substances is listed
EU - EINECS	Not all substances are listed
EU - ELINCS	At least 1 substances is listed
EU - NLP	At least 1 substances is listed
Australia – AICS	Not all substances are listed
China - EICSC	Not all substances are listed
Japan - ENCS	Not all substances are listed
Korea - KECI	Not all substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	Not all substances are listed
Philippine - PICCS	Not all substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D1B, D2A, D2B, E

MEXICO:

Hazard Classification: 3-1-0

Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) rating:

Health:	**3***
Flammability:	**1**
Physical:	**0**

NFPA 704 (National Fire Protection Association) rating:

Health	**3**
Fire	**1**
Reactivity	**0**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer

PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of preparation: January 27, 2016
Version: 1.0
Revision Date: January 27, 2016
Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.
Prepared by: Gaco Western LLC

End of Safety Data Sheet

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: GacoFireStop2 - POLYOL COMPONENT B

Product Code: F5001, F5001-55, F5001-480

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray Foam Insulation

Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA

Telephone Number: 800-331-0196 / **International**: 001-800-331-0196

Email: sds@gaco.com

Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Skin Corrosion/Irritation	2
Eye Damage/Irritation	1

2.2 LABEL ELEMENTS

Hazard Pictogram: **GHS05**

Signal Word: Danger

Hazard Statement: Causes skin irritation
Causes serious eye damage

Prevention: Wash thoroughly after handling.
Wear protective eye protection/face protection.

Response: If on skin: Wash with plenty of water.
Specific treatment (see Section 8 on this label).
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.

Storage: Store in a well-ventilated place. Keep container tightly closed.

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

2.3 ADDITIONAL INFORMATION

Main Symptoms: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.

Hazards not otherwise specified: None Known

18.5 % of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
beta-D-fructofuranosyl alpha-D-glucopyranoside	57-50-1	10-30%
Glycerol, propylene oxide, ethylene oxide polymer	9082-00-2	7-13%
Tertiary Amines (no cas)	None	5-10%
2-[(2-[2-(dimethylamino)ethoxy]ethyl)methylamino]ethanol	83016-70-0	1-5%
Dimethylaminoethoxyethanol	1704-62-7	0.1-1%
N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)	3033-62-3	0.1-1%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General Information: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

Inhalation: Move to fresh air. Call a physician if symptoms occur.

Skin: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

Eye: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to Physicians: Treat symptomatically.

Specific Treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General Hazards: No unusual fire or explosion hazard.

Suitable Extinguishing Media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)

Unsuitable Extinguishing Media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.

Products of Combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters:

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for Containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Cleaning-Up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For

waste disposal, see Section 13 of the SDS.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.

Environmental Precautions: Avoid discharge into drains, water courses or onto the ground.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Safe handling advice: Observe good industrial hygiene practices.

General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Store away from incompatible materials.

Specific use: Spray Foam Insulation

Technical measures: No specific recommendations.

Incompatible materials: None known

Safe storage: Store away from incompatible materials.

Safe packaging material: No specific recommendations.

Precautions: Use personal protective recommended in Section 8 of the SDS.

Safe handling advice: Observe good industrial hygiene practices.

Suitable storage conditions: Store away from incompatible materials.

Handling-technical measures: No specific recommendations.

Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

beta-D-fructofuranosyl alpha-D-glucopyranoside

OSHA:
PEL-TWA mg/m3: 5
Notes: RESPIRABLE FRACTION, 15 mg/m3 TOTAL DUST
NIOSH:
REL-TWA mg/m3: 5
Notes: RESPIRABLE FRACTION, 10 mg/m3 TOTAL DUST

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels to an acceptable level.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General:	Use personal protective equipment as required.
Eye protection:	Wear safety glasses with side shields (or goggles) and a face shield.
Hand protection:	Wear appropriate chemical resistant gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection:	Wear suitable protective clothing.
Hygiene measures:	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.
Control parameters:	Follow standard monitoring procedures.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Environmental manager must be informed of all major releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous Orange Liquid
Color:	Orange
Form:	Liquid
Odor:	mild amine-like
Odor Threshold:	Not available
Physical State:	Liquid
pH (at 20°C):	10.7
Melting Point/Freezing Point:	Not available
Initial Boiling Point and Boiling Range:	Not available
Flash Point:	Not available
Evaporation Rate:	Not available
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not available
Upper Flammability/Explosive Limit:	Not available
Evaporation rate:	Not available
Vapor Pressure (mm Hg @38°C):	Not available
Vapor Density:	Not available
Density (lb/gal):	9.99
Relative Density/Specific Gravity:	1.2
Solubility in water/miscibility:	Soluble
Partition coefficient: n-octanol/water:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Viscosity (at 20°C) g/L:	4500
Oxidizing Properties:	Not available
Explosive Properties:	Not available
VOC:	<15 g/L (<0.125 lb/gal)
Solvent content - Organic:	Not available
Solvent content - Water:	Not available
Solvent content - Solids:	Not available
Other information:	Not available
Incompatibilities:	acids, oxidizing agents

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Chemical stability: Material is stable under normal conditions.

Materials to avoid: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous Reactions: No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID: Contact with incompatible materials.

10.5 INCOMPATIBLE MATERIALS: Strong oxidizing agents.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition products: No hazardous decomposition products are known.

Hazardous Polymerization: Does not occur.

Other Information: Not available.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute Toxicity: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.

Likely Routes of Exposure: Skin contact. Eye contact. Inhalation.

Eye: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Skin: Causes skin irritation. May cause redness and pain.

Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.

Inhalation: Not an expected route of exposure. No adverse effects due to inhalation are expected.

LD50/LC50 values relevant to this classification:

beta-D-fructofuranosyl alpha-D-glucopyranoside

Oral rat LD50 27,700 mg/kg bw

Tertiary Amines

Oral rat LD50 1290 mg/kg bw
Inhalation rat LC50 >2.63 mg/l 1 hr
Dermal rabbit LD50 500-1000 mg/kg bw

2-[(2-[2-(dimethylamino)ethoxy]ethyl)methylamino]ethanol

Oral rat LD50 1364 mg/kg bw
Derm rabbit LD50 5700 mg/kg bw

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
>5 mg/kg (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin Corrosion/Irritation: Causes skin irritation. May cause redness and pain.

Serious Eye Damage/Irritation: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Respiratory Sensitization: Based on available data, this product is not expected to cause respiratory sensitization.

Skin Sensitization: Based on available data, this product is not expected to cause skin sensitization.

Symptoms and Target Organs: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.

Chronic Health Effects: No chronic health effects known.

Carcinogenicity: This product is not classified as a carcinogen.

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.

Specific Target Organ Toxicity (STOT):

Single Exposure: Not classified as an STOT - Single Exposure.

Repeated Exposure: Not classified as an STOT - Repeated Exposure.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Acute/Chronic Toxicity: The product is 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.

Aquatic toxicity: The product is 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.

Environmental effects: The product is 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.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

Result of PBT and vPvB assessment:

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.
Mobility in soil: No data available.
Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal Method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in accordance with all local, regional, national and international regulations.

EU Codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual Waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste Codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk

Not classified as Dangerous Goods for Transport

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

No components of this product are found at concentrations greater than or equal to 0.1% and are subject to the SARA/CERCLA reporting requirements.

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Tertiary amine	Not listed	Listed	Not listed	Not listed	Not listed	Not listed	Not listed
N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)	Not listed	Not listed	Not listed	Not listed	Listed	Not listed	Not listed
Ethylene Glycol (trace)	Dev	Listed	Listed	Not listed	Listed	Listed	Listed

California:

Proposition 65:

WARNING: This product can expose you to Ethylene Glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	All substances are listed
Canada - NDSL	All substances are listed
EU - EINECS	Not all substances are listed
EU - ELINCS	At least 1 substances is listed
EU - NLP	No substances are listed
Australia – AICS	All substances are listed
China - EICSC	All substances are listed
Japan - ENCS	All substances are listed
Korea - KECI	All substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	All substances are listed
Philippine - PICCS	All substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D1B, D2B, E

MEXICO:

Hazard Classification: 3-1-0
Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) Rating:

Health:	**3**
Flammability:	**1**
Physical:	**0**

NFPA 704 (National Fire Protection Association) Rating:

Health	**3**
Fire	**1**
Reactivity	**0**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)

HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of Preparation:	September 20, 2017
Version:	1.0
Revision Date:	September 20, 2017
Disclaimer:	We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.
Prepared by:	Gaco Western LLC

End of Safety Data Sheet

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: GacoToughFoam - POLYOL COMPONENT B

Product Code: F10000, F10000-55

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray foam insulation

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA

Telephone Number: 800-331-0196 / **International**: 001-800-331-0196

Email: sds@gaco.com

Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Acute Toxicity - Oral	4
Skin Corrosion/Irritation	2
Eye Damage/Irritation	1
Sensitization - Skin	1
Toxic to Reproduction	1B
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure)	1
STOT RE - Specific Toxic Organ Toxicity (Repeated Exposure)	2

2.2 LABEL ELEMENTS

Hazard pictogram: GHS05, GHS07, GHS08

Signal word: Danger

Hazard statement:
Harmful if swallowed
Causes skin irritation
May cause an allergic skin reaction
Causes serious eye damage
May damage fertility. May damage the unborn child.
Causes damage to organs <thymus> through prolonged or repeated exposure.
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Prevention:
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.

Response:
Specific treatment (see Section 8 on this label).
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
If skin irritation or a rash occurs: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
If exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

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

2.3 ADDITIONAL INFORMATION

Main symptoms: Prolonged exposure may cause chronic effects. May damage fertility. May damage the unborn child. Causes damage to organs <thymus> through prolonged or repeated exposure. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>. May cause allergic skin reaction. Dermatitis. Rash. Causes skin irritation. May cause redness and pain. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Hazards not otherwise specified: Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

10 % of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
Aeromatic polyester polyol	70749-97-2	10-30%

Amine Polyol	940912-28-7	10-30%
Diethylene glycol	111-46-6	5-10%
Glycerol, propylene oxide, ethylene oxide polymer	9082-00-2	1-5%
Glycerol	56-81-5	1-5%
2-Dimethylaminoethanol	108-01-0	1-5%
Glyceryl poly(oxypropylene)tramine	64852-22-8	1-5%
2-Butoxyethanol	111-76-2	1-5%
Pentamethyldiethylenetriamine	3030-47-5	1-5%
Bis(2-chloropropy1)1-chloro-2-propyl phosphate	76649-15-5	0.1-1.%
Dibutyltin dilaurylmercaptide	1185-81-5	0.1-1.%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information: Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water. Wash contaminated clothing before reuse. In case of eczema or other skin disorders: Seek medical attention and bring along these instructions.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion: Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Prolonged exposure may cause chronic effects.
May damage fertility.
May damage the unborn child.
Causes damage to organs <thymus> through prolonged or repeated exposure.
May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.
May cause allergic skin reaction. Dermatitis. Rash.
Causes skin irritation. May cause redness and pain.
Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically. Symptoms may be delayed.
Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: No unusual fire or explosion hazard.
Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)
Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.
Products of combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters:
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).
Methods for cleaning-up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.
Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Prevent product from entering drains.
Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.
Environmental precautions: Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Precautions for Safe handling: Observe good industrial hygiene practices.
General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Safe storage: Store away from incompatible materials.
Specific use: Spray foam insulation
Technical measures: No specific recommendations.
Incompatible materials: Acids, oxidizing agents, extreme temperatures.
Safe packaging material: No specific recommendations.
Precautions: Use personal protective recommended in Section 8 of the SDS.
Safe handling advice: Observe good industrial hygiene practices.

Suitable storage conditions: Store away from incompatible materials.
Handling-technical measures: No specific recommendations.
Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

Diethylene glycol
NIOSH REL: Ethylene glycol [Ceiling 50 ppm]

Glycerol
OSHA: PEL-TWA mg/m3: 5
Notes: RESPIRABLE FRACTION, 15 mg/m3 TOTAL DUST

2-Butoxyethanol
NIOSH REL: TWA 5 ppm (24 mg/m3) [skin]
OSHA PEL†: TWA 50 ppm (240 mg/m3) [skin]

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General: Eyewash fountain and emergency showers are recommended. Use personal protective equipment as required.
Eye protection: Wear safety glasses with side shields (or goggles) and a face shield.
Hand protection: Wear appropriate chemical resistant gloves.
Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection: Wear appropriate chemical resistant clothing.
Hygiene measures: 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. Contaminated work clothing should not be allowed out of the workplace.
Thermal hazards: Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous black liquid
Color:	Opaque black
Form:	Liquid
Odor:	Amine-like
Odor Threshold:	Not available
Physical State:	Liquid
pH (at 20°C):	9.74
Melting Point/Freezing Point:	Not available
Initial Boiling Point and Boiling Range:	Not available
Flash Point:	>200°F/>93.3°C
Evaporation Rate:	Not available
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not available
Upper Flammability/Explosive Limit:	Not available
Evaporation rate:	Not available
Vapor Pressure (mm Hg @38°C):	Not available
Vapor Density:	Not available
Density (lb/gal):	9.41
Relative Density/Specific Gravity:	1.13
Solubility in water/miscibility:	Soluble
Partition coefficient: n-octanol/water:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Viscosity (at 25°C) g/L:	1400 cps
Oxidizing Properties:	Not available
Explosive Properties:	Not available
VOC:	<10 g/L (<0.083 lb/gal)
Solvent content - Organic:	Not available
Solvent content - Water:	Not available
Solvent content - Solids:	Not available
Other information:	Not available
Incompatibilities:	Acids, strong oxidizing agents, extreme temperatures

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Chemical stability: Material is stable under normal conditions.

Materials to avoid: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions: No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID Contact with incompatible materials.

10.5 INCOMPATIBLE MATERIALS Acids, oxidizing agents, extreme temperatures.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition products: No hazardous decomposition products are known.

Hazardous polymerization: Does not occur.

Other information: Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Harmful if swallowed. May cause an allergic skin reaction. Dermatitis. Rash. Causes skin irritation. May cause redness and pain. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Likely routes of exposure: Skin contact. Eye contact. Inhalation.

Eye: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Skin: May cause an allergic skin reaction. Dermatitis. Rash. Causes skin irritation. May cause redness and pain.

Ingestion: Harmful if swallowed.

Inhalation: Not an expected route of exposure. No adverse effects due to inhalation are expected.

LD50/LC50 values relevant to this classification:

Aeromatic polyester polyol
Oral rat LD50 1370 mg/kg bw
Dermal rabbit LD50 12,800 mg/kg bw

Amine Polyol
Oral rat LD50 1370 mg/kg bw
Dermal rabbit LD50 12,800 mg/kg bw

Diethylene glycol
Oral rat LD50 19600 mg/kg bw/day
Oral rat LD50 16500 mg/kg bw/day
Oral Human LD50 1120 mg/kg bw/day
Oral Rat LD50 >25300 mg/kg
Inhal rat LC50 > 4.6 mg/L air 4hr
Inhal Rat LC50 >5.06 mg/l
Derm rabbit LD50 13300 mg/kg bw
Dermal Rabbit LD50 12500 mg/kg

Glyceryl poly(oxypropylene)tramine
Oral rat LD50 2690 mg/kg
Dermal rabbit LD50 12500 mg/kg

2-Dimethylaminoethanol
Oral rat LD50 1203.2-1220.1 mg/kg bw
Oral rat LD0 >1000 mg/kg bw
Oral rat LD50 2140 mg/kg bw
Oral rat LD50 2083 mg/kg bw
Inhal rat LC50 1641 ppm 4d
Derm rabbit LD50 >3000 mg/kg bw
Derm rabbit LD50 1219 mg/kg bw

Glyceryl poly(oxypropylene)tramine
Oral rat LD50 2690 mg/kg
Dermal rabbit LD50 12500 mg/kg

2-Butoxyethanol

Oral rat LD50 1746 mg/kg bw
Oral rabbit LD50 695 mg/kg
Oral GP LD50 1200 mg/kg
Oral rat LD50 2420 mg/kg bw
Oral mouse LD50 1230 mg/kg bw
Oral rat LD50 1480 mg/kg bw
Oral mouse LD50 2005 mg/kg bw
Oral GP LD50 1414 mg/kg bw
Inhal rat LC50 LD50 (4 hrs): males: 2.4mg/l; females: 2.2mg/l
Inhal rabbit LC50 ~2.0mg/l
Inhal rat LC50 (4hr) >3.9mg/l; LC50 (8hr) ~ 3.9mg/l
Inhal rat LC50 >4.26mg/l
Inhal rat LC50 (4hr) >3.9mg/l; LC50 (8hr) ~ 3.9mg/l
Inhal rat LC50 >4.26mg/l
Derm GP LD50 >1200mg/l
Derm rabbit LD50 612mg/kg
Derm rabbit LD50 567mg/kg
Derm rabbit LD50 450ml/kg (405mg/kg)
Derm rat LD50 2275 mg/kg (1680 – 3079 mg/kg)
Derm rat LD50 0.23 & 0.30ml/kg (207 and 270mg/kg)
Derm rabbit LD50 > 2000mg/kg
Derm rabbit LD50 841mg/kg
Derm rabbit LD50 435mg/kg

Pentamethyldiethylenetriamine

Oral rat LD50 1330 mg/kg bw
Inhal rat LC50 290 ppm = 2055.5 mg/m3
Inhal rat LC50 8.38 mg/L air (nominal)
Derm rabbit LD50 > 200 < 1000 mg/kg bw
Derm rabbit >200 mg/kg = no effect

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
>5 mg/kg (dust and mist)	> 300 and ≤ 2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Causes skin irritation. May cause redness and pain.

Serious eye damage/irritation: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Respiratory sensitization: Based on available data, this product is not expected to cause respiratory sensitization.

Skin sensitization: May cause an allergic skin reaction.

Symptoms and target organs: Prolonged exposure may cause chronic effects. May damage fertility. May damage the unborn child. Causes damage to organs <thymus> through prolonged or repeated exposure. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.May cause an allergic skin reaction. Dermatitis. Rash. Causes skin irritation. May cause redness and pain. Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Chronic health effects: Prolonged exposure may cause chronic effects. May damage fertility. May damage the unborn child. Causes damage to organs <thymus> through prolonged or repeated exposure. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Carcinogenicity: This product is not classified as a carcinogen. Due to the form of the product, exposure to the potentially carcinogenic components is not expected.

Material	OSHA(O)	ACGIH(G)	NTP(N)	IARC(I)
Diethylene glycol	Not listed	A3	Not listed	3
2-Butoxyethanol	Not listed	A3	Not listed	3

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (O) =Occupational Safety and Health Administration
Ca/Yes = Expected to be carcinogenic
not listed = Not expected to be carcinogenic

ACGIH (G) =American Conference of Governmental Industrial Hygienists
A1 =Confirmed human carcinogen
A2 =Suspected human carcinogen
A3 =Animal carcinogen
A4 =Not classifiable as a human carcinogen
A5 =Not suspected as a human carcinogen
not listed = Not expected to be carcinogenic

NTP (N) =National Toxicology Program
K =Known to be a carcinogen
R = Reasonably anticipated to be a carcinogen
not listed = Not expected to be carcinogenic

IARC (I) =International Agency for Research on Cancer
1 =Carcinogenic to humans
2A =Probably carcinogenic to humans
2B =Possibly carcinogenic to humans
3 =Not classifiable as to its carcinogenicity to humans
4 =Probably not carcinogenic to humans
not listed = Not expected to be carcinogenic

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: May damage fertility. May damage the unborn child.

Specific Target Organ Toxicity (STOT):

Single Exposure: Not classified as an STOT - Single Exposure.

Repeated Exposure: Causes damage to organs <thymus> through prolonged or repeated exposure. May cause damage to organs <kidney> through prolonged or repeated exposure <oral>.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Ecotoxicity: Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Acute aquatic toxicity: Harmful to aquatic life.

Chronic toxicity: Harmful to aquatic life with long lasting effects.

Environmental effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.

Mobility in soil: No data available.

Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal method:	This material must be disposed of in accordance with all local, state, provincial, and federal regulations.
Contaminated packaging:	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in accordance with all local, regional, national and international regulations.
EU codes:	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Residual waste:	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Disposal instructions:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.
Waste codes:	The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk

Not classified as Dangerous Goods for Transport

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

No components of this product are found at concentrations greater than or equal to 0.1% and are subject to the SARA/CERCLA reporting requirements.

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Diethylene glycol	Not listed	Not listed	Listed	Not listed	Not listed	Not listed	Not listed
Glycerol	Not listed	Listed	Listed	Not listed	Listed	Listed	Not listed
2-Dimethylaminoethanol	Not listed	Listed	Not listed	Not listed	Not listed	Listed	Not listed
2-Butoxyethanol	Not listed	Listed	Listed	Not listed	Not listed	Listed	Not listed
methyloxirane (trace amounts)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
1,4- Dioxane (trace amounts)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
Ethylene Oxide (trace amounts)	Cancer	Listed	Listed	Not listed	Not listed	Listed	Listed
Formaldehyde (trace amounts)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	Not all substances are listed
Canada - NDSL	At least 1 substance is listed
EU - EINECS	Not all substances are listed
EU - ELINCS	No substances are listed
EU - NLP	At least 1 substance is listed
Australia – AICS	Not all substances are listed
China - EICSC	Not all substances are listed
Japan - ENCS	All substances are listed
Korea - KECI	Not all substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	Not all substances are listed
Philippine - PICCS	Not all substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D1B, D2A, D2B, E

MEXICO:

Hazard Classification: 3-1-0

Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) rating:

Health:	**3***
Flammability:	**1**
Physical:	**0**

NFPA 704 (National Fire Protection Association) rating:

Health	**3**
Fire	**1**
Reactivity	**0**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of preparation: October 12, 2015
Version: 1.0
Revision Date: October 12, 2015
Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.
Prepared by: Gaco Western LLC

End of Safety Data Sheet

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: GacoPourFoam CF2030 - POLYOL COMPONENT B

Product Code: F-CF2030, F-CF2030-55

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray Foam Insulation

Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA

Telephone Number: 800-331-0196 / **International**: 001-800-331-0196

Email: sds@gaco.com

Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Eye Damage/Irritation	1

2.2 LABEL ELEMENTS

Hazard pictogram: GHS05

Signal word: Danger

Hazard statement: Causes serious eye damage

Prevention: Wear protective eye protection/face protection.

Response: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.

Storage: Store in a well-ventilated place. Keep container tightly closed.

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

2.3 ADDITIONAL INFORMATION

Main symptoms: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Hazards not otherwise specified: May cause long lasting harmful effects to aquatic life

5 % of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
1,1,1,3,3-Pentafluoropropane	460-73-1	5-10%
Nonylphenol polyethylene glycol ether	127087-87-0	1-5%
Glycerol, propylene oxide, ethylene oxide polymer	9082-00-2	1-5%
Glycerol	56-81-5	1-5%
Bis(2-chloropropy1)1-chloro-2-propyl phosphate	76649-15-5	0.1-1.0%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General information: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact: Wash skin with plenty of soap and water. Get medical attention is irritation develops and persists.

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to physicians: Treat symptomatically.

Specific treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General hazards: No unusual fire or explosion hazard.

Suitable extinguishing media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2)

Unsuitable extinguishing media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.

Products of combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

For personal protection, see Section 8 of this SDS.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning-up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.

Large spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Prevent product from entering drains.

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.

Environmental precautions: Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Precautions for Safe handling: Observe good industrial hygiene practices.

General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Safe storage:	Store away from incompatible materials.
Specific use:	Spray Foam Insulation
Technical measures:	No specific recommendations.
Incompatible materials:	acids, oxidizing agents, extreme temperatures.
Safe packaging material:	No specific recommendations.
Precautions:	Use personal protective recommended in Section 8 of the SDS.
Safe handling advice:	Observe good industrial hygiene practices.
Suitable storage conditions:	Store away from incompatible materials.
Handling-technical measures:	No specific recommendations.
Local and general ventilation:	Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

Nonylphenol polyethylene glycol ether
AIHA WEEL TWA 10 mg/m3

Glycerol
OSHA:
PEL-TWA mg/m3: 5
Notes: RESPIRABLE FRACTION, 15 mg/m3 TOTAL DUST

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eyewash facilities and emergency shower must be available when handling this product.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General:	Eyewash fountain and emergency showers are recommended. Use personal protective equipment as required.
Eye protection:	Wear safety glasses with side shields (or goggles) and a face shield.
Hand protection:	For prolonged or repeated skin contact, use suitable protective gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection:	Wear suitable protective clothing.
Hygiene measures:	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.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light brown liquid
Color:	Light brown
Form:	Liquid
Odor:	Not applicable
Odor Threshold:	Not applicable
Physical State:	Liquid
pH (at 20°C):	Not applicable
Melting Point/Freezing Point:	Not applicable
Initial Boiling Point and Boiling Range:	Not applicable
Flash Point:	>200°F/>93.3°C
Evaporation Rate:	Not applicable
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not applicable
Upper Flammability/Explosive Limit:	Not applicable
Vapor Pressure (mm Hg @38°C):	Not applicable
Vapor Density:	Not applicable
Density (lb/gal):	9.14
Relative Density/Specific Gravity:	1.10
Solubility in water/miscibility:	Solvent
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition Temperature:	Not applicable
Decomposition Temperature:	Not applicable
Viscosity (at 22°C) g/L:	900 cps
Oxidizing Properties:	Not applicable
Explosive Properties:	Not applicable
VOC:	1.1 g/L (0.0091795 lb/gal)
Solvent content - Organic:	Not applicable
Solvent content - Water:	Not applicable
Solvent content - Solids:	79.32
Other information:	Not applicable
Incompatibilities:	acids, oxidizing agents, extreme temperatures

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY

Chemical stability: Material is stable under normal conditions.

Materials to avoid: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS

Hazardous reactions: No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID Contact with incompatible materials.

10.5 INCOMPATIBLE MATERIALS acids, oxidizing agents, extreme temperatures

10.6 HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous decomposition products: No hazardous decomposition products are known.

Hazardous polymerization: Does not occur.

Other information: Not applicable.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute toxicity: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Likely routes of exposure: Skin contact. Eye contact. Inhalation.

Eye: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Skin: No adverse effects due to skin contact are expected. Prolonged skin contact may cause dryness, redness, or cracking.

Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.

Inhalation: Not an expected route of exposure. No adverse effects due to inhalation are expected.

LD50/LC50 values relevant to this classification:

1,1,1,3,3-Pentafluoropropane

Inhal rat LC50 >200,000 ppm 4hr No deaths, evidence of transient anesthetic effect.
Inhal rat LC50 >100,000 ppm 4hr No deaths, evidence of transient underactivity during exposure.
Derm rabbit >2000 mg/kg bw

Nonylphenol polyethylene glycol ether

Oral rat LD50 2980 mg/kg
Dermal rabbit LD50 2000-2991 mg/kg
Inhalation rat LC50 1.15 mg/l 4 hr

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
>5 mg/kg (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin corrosion/irritation: Based on available data, this product is not expected to cause skin corrosion or irritation. Prolonged skin contact may cause dryness, redness, or cracking.

Serious eye damage/irritation: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Respiratory sensitization: Based on available data, this product is not expected to cause respiratory sensitization.

Skin sensitization: Based on available data, this product is not expected to cause skin sensitization.

Symptoms and target organs: Direct contact with eyes may cause temporary irritation.

Chronic health effects: No chronic health effects known.

Carcinogenicity: This product is not classified as a carcinogen. Due to the form of the product,

exposure to the potentially carcinogenic components is not expected.

Material	OSHA(O)	ACGIH(G)	NTP(N)	IARC(I)
Diethylene glycol	Not listed	A3	Not listed	3

SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:

OSHA (O) =Occupational Safety and Health Administration
Ca/Yes = Expected to be carcinogenic
not listed = Not expected to be carcinogenic

ACGIH (G) =American Conference of Governmental Industrial Hygienists
A1 =Confirmed human carcinogen
A2 =Suspected human carcinogen
A3 =Animal carcinogen
A4 =Not classifiable as a human carcinogen
A5 =Not suspected as a human carcinogen
not listed = Not expected to be carcinogenic

NTP (N) =National Toxicology Program
K =Known to be a carcinogen
R = Reasonably anticipated to be a carcinogen
not listed = Not expected to be carcinogenic

IARC (I) =International Agency for Research on Cancer
1 =Carcinogenic to humans
2A =Probably carcinogenic to humans
2B =Possibly carcinogenic to humans
3 =Not classifiable as to its carcinogenicity to humans
4 =Probably not carcinogenic to humans
not listed = Not expected to be carcinogenic

Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.

Specific Target Organ Toxicity (STOT):

Single Exposure: Not classified as an STOT - Single Exposure.

Repeated Exposure: Not classified as an STOT - Repeated Exposure.

Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.

Other Information: Not applicable.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Ecotoxicity: May cause long lasting harmful effects to aquatic life.

Acute aquatic toxicity: The product is not classified as acutely environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Chronic toxicity: May cause long lasting harmful effects to aquatic life.

Environmental effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.

Mobility in soil: No data available.

Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in

accordance with all local, regional, national and international regulations.

EU codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk

Not classified as Dangerous Goods for Transport

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

No components of this product are found at concentrations greater than or equal to 0.1% and are subject to the SARA/CERCLA reporting requirements.

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Glycerol	Not listed	Listed	Listed	Not listed	Listed	Listed	Not listed
Diethylene glycol	Not listed	Not listed	Listed	Not listed	Not listed	Listed	Not listed
2-Dimethylaminoethanol	Not listed	Listed	Not listed	Not listed	Not listed	Listed	Not listed
Poly(ethylene oxide)	Not listed	Not listed	Listed	Not listed	Not listed	Not listed	Not listed
Oxydipropanol	Not listed	Not listed	Not listed	Not listed	Not listed	Listed	Not listed
Cyclohexyldimethylamine	Not listed	Not listed	Not listed	Not listed	Listed	Not listed	Not listed
1,4- Dioxane	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
methyloxirane (trace amounts)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
Dichloromethane	Cancer	Listed	Listed	Listed	Not listed	Listed	Listed
Ethylene Oxide (trace amounts)	Cancer	Listed	Listed	Not listed	Not listed	Listed	Listed

California South Coast Air Quality Management District (SCAQMD):

This product contains 1,1,1,3,3-Pentafluoropropane & Dichloromethane, substances that are regulated or restricted for specific applications when applied in areas that are subject to SCAQMD Rule 1168 or Rule 1113. Please consult a local Air Quality regulator or SCAQMD http://www.aqmd.gov/ to determine if your application is subject to these rules and therefore subject to the restrictions or prohibitions of use.

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	All substances are listed
Canada - NDSL	No substances are listed
EU - EINECS	Not all substances are listed
EU - ELINCS	No substances are listed
EU - NLP	At least 1 substances is listed
Australia – AICS	Not all substances are listed
China - EICSC	All substances are listed
Japan - ENCS	All substances are listed
Korea - KECI	Not all substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	Not all substances are listed
Philippine - PICCS	Not all substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D2B, E

MEXICO:

Hazard Classification: 3-1-0
Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) rating:

Health:	**3**
Flammability:	**1**
Physical:	**0**

NFPA 704 (National Fire Protection Association) rating:

Health	**3**
Fire	**1**
Reactivity	**0**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC
ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of preparation: April 8, 2016
Version: 1.0
Revision Date: April 8, 2016
Disclaimer: We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not

be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.

Prepared by: Gaco Western LLC

End of Safety Data Sheet

SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: GacoProFill - POLYOL COMPONENT B

Product Code: FR6500R, FR6500R-5, FR6500R-55, FR6500R-480

1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

Product Use: Spray Foam Insulation

Use this product in accordance with all local, regional, national and international regulations.

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Name/Address: Gaco Western LLC
1245 Chapman Dr.
Waukesha, WI, 53186-5942
USA

Telephone Number: 800-331-0196 / **International**: 001-800-331-0196

Email: sds@gaco.com

Website: www.gaco.com

1.4 EMERGENCY TELEPHONE NUMBER

For Chemical Emergency
Spill, Leak, Fire, Exposure, or Incident
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1-703-527-3887 (collect calls accepted)

SECTION 2: HAZARD(S) IDENTIFICATION

2.1 CLASSIFICATION OF THE CHEMICAL

Hazard class:

HAZARD CLASSIFICATION	CATEGORY
Skin Corrosion/Irritation	2
Eye Damage/Irritation	1

2.2 LABEL ELEMENTS

Hazard Pictogram: **GHS05**

Signal Word: Danger

Hazard Statement: Causes skin irritation
Causes serious eye damage

Prevention: Wash thoroughly after handling.
Wear protective eye protection/face protection.

Response: If on skin: Wash with plenty of water.
Specific treatment (see Section 8 on this label).
If skin irritation occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.

Storage: Store in a well-ventilated place. Keep container tightly closed.

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

2.3 ADDITIONAL INFORMATION

Main Symptoms: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.

Hazards not otherwise specified: Harmful to aquatic life with long lasting effects.

14 % of the mixture consists of ingredient(s) of unknown acute toxicity

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 MIXTURES

Material	CAS No.	Weight %*
beta-D-fructofuranosyl alpha-D-glucopyranoside	57-50-1	10-30%
Nonylphenol polyethylene glycol ether	127087-87-0	5-10%
Dimethylaminoethoxyethanol	1704-62-7	1-5%
2-[(2-[2-(dimethylamino)ethoxy]ethyl)methylamino]ethanol	83016-70-0	1-5%

*The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: FIRST-AID MEASURES

4.1 DESCRIPTION OF THE FIRST AID MEASURES

General Information: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

Inhalation: Move to fresh air. Call a physician if symptoms occur.

Skin: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.

Eye: Immediately flush eyes with plenty of water for at least 15 minutes.

Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

Note to Physicians: Treat symptomatically.

Specific Treatments: In case of accident or if you feel unwell, seek medical advice (show the label or SDS where possible).

SECTION 5: FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

General Hazards: No unusual fire or explosion hazard.

Suitable Extinguishing Media: Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2)

Unsuitable Extinguishing Media: Do not use water jet as an extinguisher as this will spread the fire.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards: During fire, gases hazardous to health may be formed.

Products of Combustion: May include, and are not limited to: oxides of carbon.

5.3 Special protective equipment and precautions for fire-fighters (PPE)

Special protective equipment for fire-fighters:

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire-fighting procedures: Keep upwind of fire. Move containers from fire area if you can do it without risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.

6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

Methods for Containment: Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for Cleaning-Up: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Following product recovery, flush area with water. For waste disposal, see Section 13 of the SDS.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material,

where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Prevent product from entering drains.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.

Environmental Precautions: Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING

Safe handling advice: Observe good industrial hygiene practices.

General hygiene advice: Ensure that medical personnel are aware of the materials(s) involved, and take precautions to protect themselves.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage: Store away from incompatible materials.

Specific use: Spray Foam Insulation

Technical measures: No specific recommendations.

Incompatible materials: None known

Safe storage: Store away from incompatible materials.

Safe packaging material: No specific recommendations.

Precautions: Use personal protective recommended in Section 8 of the SDS.

Safe handling advice: Observe good industrial hygiene practices.

Suitable storage conditions: Store away from incompatible materials.

Handling-technical measures: No specific recommendations.

Local and general ventilation: Provide adequate ventilation.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Control parameters: Follow standard monitoring procedures.

Exposure limits:

beta-D-fructofuranosyl alpha-D-glucopyranoside

OSHA:
PEL-TWA mg/m3: 5
Notes: RESPIRABLE FRACTION, 15 mg/m3 TOTAL DUST
NIOSH:
REL-TWA mg/m3: 5
Notes: RESPIRABLE FRACTION, 10 mg/m3 TOTAL DUST

Nonylphenol polyethylene glycol ether

OSHA: None
NIOSH: None
AIHA WEEL TWA 10 mg/m3

8.2 EXPOSURE CONTROLS

Engineering measures to reduce exposure:
Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels to an acceptable level.

8.3 INDIVIDUAL PROTECTIVE MEASURES

General:	Use personal protective equipment as required.
Eye protection:	Wear safety glasses with side shields (or goggles) and a face shield.
Hand protection:	Wear appropriate chemical resistant gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Skin and body protection:	Wear suitable protective clothing.
Hygiene measures:	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.
Control parameters:	Follow standard monitoring procedures.
Thermal hazards:	Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls: Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Viscous brown Liquid
Color:	Brown
Form:	Liquid
Odor:	mild amine-like
Odor Threshold:	Not available
Physical State:	Liquid
pH (at 20°C):	10.7
Melting Point/Freezing Point:	Not available
Initial Boiling Point and Boiling Range:	Not available
Flash Point:	Not available
Evaporation Rate:	Not available
Flammability (solid, gaseous):	Not Flammable
Lower Flammability/Explosive Limit:	Not available
Upper Flammability/Explosive Limit:	Not available
Evaporation rate:	Not available
Vapor Pressure (mm Hg @38°C):	Not available
Vapor Density:	Not available
Density (lb/gal):	9.77
Relative Density/Specific Gravity:	1.2
Solubility in water/miscibility:	Soluble
Partition coefficient: n-octanol/water:	Not available
Auto-ignition Temperature:	Not available
Decomposition Temperature:	Not available
Viscosity (at 20°C) g/L:	Not available
Oxidizing Properties:	Not available
Explosive Properties:	Not available
VOC:	<10 g/L (<0.08 lb/gal)

Solvent content - Organic: Not available
Solvent content - Water: Not available
Solvent content - Solids: Not available
Other information: Not available
Incompatibilities: acids, oxidizing agents

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.2 CHEMICAL STABILITY
Chemical stability: Material is stable under normal conditions.
Materials to avoid: The product is stable and non-reactive under normal conditions of use, storage and transport.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS
Hazardous Reactions: No dangerous reaction known under conditions of normal use.

10.4 CONDITIONS TO AVOID: Contact with incompatible materials.

10.5 INCOMPATIBLE MATERIALS: Strong oxidizing agents.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous decomposition products: No hazardous decomposition products are known.
Hazardous Polymerization: Does not occur.

Other Information: Not available.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute Toxicity: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.
Likely Routes of Exposure: Skin contact. Eye contact. Inhalation.
Eye: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Skin: Causes skin irritation. May cause redness and pain.
Ingestion: Not an expected route of exposure. Expected to be a low ingestion hazard.
Inhalation: Not an expected route of exposure. No adverse effects due to inhalation are expected.

LD50/LC50 values relevant to this classification:

beta-D-fructofuranosyl alpha-D-glucopyranoside
Oral rat LD50 27,700 mg/kg bw

Nonylphenol polyethylene glycol ether
Oral rat LD50 2980 mg/kg

Dermal rabbit LD50 2000-2991 mg/kg
Inhalation rat LC50 1.15 mg/l 4 hr

2-[(2-[2-(dimethylamino)ethoxy]ethyl)methylamino]ethanol
Oral rat LD50 1364 mg/kg bw
Derm rabbit LD50 5700 mg/kg bw

Calculated overall chemical acute toxicity values for this formulation:

Calculated overall Chemical Acute Toxicity Values		
LC50 (inhalation)	**LD50 (oral)**	**LD50 (dermal)**
>5 mg/kg (dust and mist)	>2000 mg/kg	>2000 mg/kg

11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE

Skin Corrosion/Irritation: Causes skin irritation. May cause redness and pain.
Serious Eye Damage/Irritation: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Respiratory Sensitization: Based on available data, this product is not expected to cause respiratory sensitization.
Skin Sensitization: Based on available data, this product is not expected to cause skin sensitization.
Symptoms and Target Organs: Causes severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. May cause redness and pain.
Chronic Health Effects: No chronic health effects known.
Carcinogenicity: This product is not classified as a carcinogen.
Mutagenicity: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Reproductive Toxicity: This product is not expected to cause reproductive or developmental effects.
Specific Target Organ Toxicity (STOT):
Single Exposure: Not classified as an STOT - Single Exposure.
Repeated Exposure: Not classified as an STOT - Repeated Exposure.
Aspiration Toxicity: Based on available data, this product is not expected to cause aspiration toxicity.
Other Information: Not available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 ECOTOXICITY

Ecotoxicity: Harmful to aquatic life with long lasting effects.
Acute aquatic toxicity: The product is not classified as acutely environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
Chronic toxicity: Harmful to aquatic life with long lasting effects.
Environmental effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

12.2 PERSISTENCE AND DEGRADABILITY

Persistence/biodegradability: The product contains substances which are not expected to be readily

biodegradable.

12.3 BIOACCUMULATIVE POTENTIAL

Bioaccumulation: No data available.

12.4 MOBILITY

Mobility: No data available.
Mobility in soil: No data available.
Mobility in non-soil: No data available.

12.5 OTHER ADVERSE EFFECTS

Ozone layer: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS

Disposal Method: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Contaminated packaging: Since emptied containers may retain product residue, follow label warnings even after container is emptied. Dispose of contents and container in accordance with all local, regional, national and international regulations.

EU Codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Residual Waste: Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Disposal instructions: Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents and container in accordance with all local, regional, national and international regulations.

Waste Codes: The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Other disposal recommendations: None

SECTION 14: TRANSPORT INFORMATION

DOT Non-Bulk

Not classified as Dangerous Goods for Transport

DOT Bulk

Not classified as Dangerous Goods for Transport

IMDG

Not classified as Dangerous Goods for Transport

ICAO/IATA

Not classified as Dangerous Goods for Transport

Reportable quantity: Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material

SECTION 15: REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

US Federal Regulations:

U.S. OSHA (Occupational Safety and Health Administration) Specifically Regulated Substances (29 CFR 1910.1001-1050)

No components of this product are present at concentration greater than or equal to 0.1% and are identified as a carcinogen or potential carcinogen by OSHA.

SARA/CERCLA reporting requirements:

No components of this product are found at concentrations greater than or equal to 0.1% and are subject to the SARA/CERCLA reporting requirements.

State Right-to-Know Regulations

The following components of this product are found at concentrations greater than or equal to 0.1%, subject to state Right-to-Know reporting requirements; or are found at any concentration and are listed under California Proposition 65.

Material	California Proposition 65	Massachusetts Right-to-Know	Minnesota Employee Right-to-Know	New Jersey Community Environmental Hazard Right-to-Know	New Jersey Right-to-Know Substance	Pennsylvania Right-to-Know	Rhode Island Right-to-Know
Ethylene Glycol	Dev	Listed	Listed	Not listed	Listed	Listed	Listed
1,4- Dioxane (trace)	Cancer	Listed	Listed	Listed	Listed	Listed	Listed
Ethylene Oxide (trace)	Cancer	Listed	Listed	Not listed	Not listed	Listed	Listed

California:

Proposition 65:

WARNING: This product can expose you to 1,4- Dioxane, and Ethylene Oxide, which are known to the State of California to cause cancer, and Ethylene Glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information, go to www.P65Warnings.ca.gov.

Global Inventories:

Notification status:	
US - TSCA	All substances are listed
Canada -DSL	All substances are listed
Canada - NDSL	All substances are listed
EU - EINECS	Not all substances are listed
EU - ELINCS	No substances are listed
EU - NLP	At least 1 substance is listed
Australia – AICS	All substances are listed
China - EICSC	All substances are listed
Japan - ENCS	All substances are listed
Korea - KECI	All substances are listed
Taiwan - NECI	All substances are listed
New Zealand - NZIoC	All substances are listed
Philippine - PICCS	All substances are listed

EU - REACH Status:

A registration number is not available for substances in this mixture as the substances are

exempted from registration, the annual tonnage does not require a registration or the registration is envisioned for a later registration deadline.

CANADA – WHMIS (Workplace Hazardous Materials Information System) Classification:

D1B, D2B, E

MEXICO:

Hazard Classification: 3-1-0

Carcinogen Status: No data available.

SECTION 16: OTHER INFORMATION

HMIS (Hazardous Materials Identification System) Rating:

Health:	**3**
Flammability:	**1**
Physical:	**0**

NFPA 704 (National Fire Protection Association) Rating:

Health	**3**
Fire	**1**
Reactivity	**0**

Legend:

DOT	US Department of Transportation
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
ACGIH	American Conference of Governmental Industrial Hygienists
NTP	National Toxicology Program
IARC	International Agency for Research on Cancer
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act
CAA	Clean Air Act
SARA	Superfund Amendments and Reauthorization Act
EPCRA	Emergency Planning and Community Right-to-Know Act
WHMIS	Workplace Hazardous Materials Information System
EU	European Union
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
TSCA	US Toxic Substances Control Act (TSCA)
DSL	Canada Domestic Substance List (DSL)
NDSL	Canada Non-Domestic Substance List (NDSL)
EINECS	European Inventory of Existing Commercial Chemical Substances (EINECS)
ELINCS	European List of Notified Chemical Substances (ELINCS)
NLP	European list of No-longer Polymers (NLP)
AICS	Australian Inventory of Chemical Substances (AICS)
EICSC	China Existing Chemical Inventory - IECSC

ENCS	Japanese Existing and New Chemical Substances Inventory(ENCS)
KECI	Korea Existing Chemicals Inventory(KECI)
NECI	Taiwan National Existing Chemical Inventory (NECI)
NZIoC	New Zealand Inventory of Chemicals (NZIoC)
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
HMIS	Hazardous Materials Identification System
NFPA	National Fire Protection Association (NFPA)

Date of Preparation:	September 20, 2017
Version:	1.0
Revision Date:	September 20, 2017
Disclaimer:	We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind. The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for the user's own particular use.
Prepared by:	Gaco Western LLC

End of Safety Data Sheet