SECTION 1: IDENTIFICATION

1.1 PRODUCT IDENTIFIER

Product Name: GacoRoofFoam WINTER - POLYOL COMPONENT B

Product Code: F2733W, F2733W-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)

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Prepared by: Gaco Western LLC

End of Safety Data Sheet