Section 1. Chemical Name and Manufacturer

Product Class: Open Cell Spray Foam Insulation Part B
Product Names: QuadFoam® 500, QuadFoam® 500 NatureSeal®, QuadFoam® 500 RetroSeal®
Application: Spray Foam Insulation
Chemical Description: Polyol Based Blend
Mixture / Substance: Mixture
CAS #: Not Available (Mixture)
Composition: 100%

Quadrant Urethane Technologies
200 Industrial Blvd. McKinney, Texas 75069
Phone: 972-542-0072 Fax: 972-562-1771
Emergency Contact: Infotrac 800-535-5053

Section 2. Hazard(s) Identification

This product as purchased is classified by OSHA as an Acute Hazard, Chronic Hazard, and Fire Hazard that may produce toxic vapors upon combustion.

Wear Personal Protective Equipment recommended to minimize exposure. See SECTION 8. Use this product only in the manner or application that it was intended for.

Routes of Exposure: Inhalation, Ingestion, Skin Contact, Eye Contact

Inhalation: Inhalation of vapor or mist can cause the following:
Irritation to the respiratory tract, headaches, coughing, nausea, and dizziness.

Ingestion: May cause irritation to mouth, throat, esophagus, and stomach resulting in nausea, vomiting, abdominal pain, and diarrhea.

Skin Contact: May cause skin irritation and dermatitis. Pre-existing skin allergies may increase the chance of developing increased allergy symptoms. Pre-existing skin and eye disorders may be aggravated by exposure.

Eye Contact: Vapors and liquid may cause moderate to severe irritation with tearing, reddening, blurred vision, and pain.

Chronic Health Effects: The components in this product are not listed by NTP, IARC, or are regulated as a carcinogen by OSHA. No Mutagenic, Reproductive, or Developmental effects or critical hazards are known.

Section 3. Composition / Information on Ingredients

The specific chemical identity of this material is considered to be Confidential Business Information.

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Amount %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyol Blend</td>
<td>Trade Secret</td>
<td>20 - 40</td>
</tr>
<tr>
<td>Tris-iso-chloropropyl Phosphate</td>
<td>13674-84-5</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Surfactant 1</td>
<td>Trade Secret</td>
<td>10 - 30</td>
</tr>
<tr>
<td>Surfactant 2</td>
<td>Trade Secret</td>
<td>0 - 2</td>
</tr>
<tr>
<td>Reactive Tertiary Amine Catalyst Blend</td>
<td>Trade Secret</td>
<td>2 - 10</td>
</tr>
<tr>
<td>Flame Retardant 1 (NatureSeal only)</td>
<td>Trade Secret</td>
<td>15 - 30</td>
</tr>
<tr>
<td>Flame Retardant 2 (NatureSeal only)</td>
<td>Trade Secret</td>
<td>5 - 10</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>10 - 25</td>
</tr>
</tbody>
</table>
Section 4. First Aid Measures

Inhalation: If overexposed, move subject to fresh air. Give artificial respiration if breathing has stopped. With any difficulty, IMMEDIATELY see a physician.

Ingestion: Do not induce vomiting. If swallowed give 2 glasses of water to drink. IMMEDIATELY see a physician. Never give anything by mouth to an unconscious person. Careful gastric lavage may be indicated.

Skin: IMMEDIATE REMOVAL FROM THE SKIN IS ESSENTIAL TO PREVENT IRRITATION. Wash affected skin areas thoroughly with soap and water. See a physician.

Eye: IMMEDIATELY flush eyes with a large amount of water for at least 15 minutes holding eye lids open. See a physician.

Section 5. Fire Fighting Measures and Properties

Unusual Hazards: Under fire conditions containers may rupture due to pressure buildup.

Extinguishing Agents: Use the following extinguishing media
- Alcohol Foam
- Carbon Dioxide
- Water Spray
- Dry Chemical

PPE Required: Wear a self-contained breathing apparatus (pressure-demand MSHA / NIOSHA approved or equivalent) and full protective gear.

Special Procedures: Use water spray to cool fire exposed containers.

Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides, Aldehydes, Ketones, and various Halogenated Compounds.

Section 6. Accidental Release Measures

Personal Protection: Not normally needed for inhalation. If ventilation is poor, wear a MSHA / NIOSH approved (or equivalent) full-face air-purifying respirator. Wear full protective equipment including aprons or overalls, gloves, boots, chemical splash goggles, and face shield (ANSI Z-87.1 or approved equivalent). If exposed to material during clean-up operations, immediately remove contaminated clothing and wash exposed skin areas with soap and water. Do not take clothing home to be laundered.

Avoid all contact with unprotected skin, foot wear, and clothing. Contain spills immediately with inert materials (e.g. sand, earth). Do not allow material to seep into sewer drains, rivers, creeks, or any other open body of water. Transfer liquids and solid diking material to separate suitable containers for recovery and / or disposal. See SECTION 13 for information regarding the disposal of contained spills.

Section 7. Handling and Storage

Storage Conditions: Store between 50 - 100 °F away from excessive heat (e.g. steam pipes, radiators) or sources of ignition and from reactive materials. Keep container tightly closed when not in use. If material is poured into other containers, transfer label information promptly. Protect from freezing.

Handling procedures: Avoid direct contact with product. Wear required Personal Protective Equipment to avoid contact when working with this product. See SECTION 8 for the appropriate guidelines to follow. Do not eat, drink, or smoke in the area where this material is being used. Observe all precautionary use recommendations.

Incompatibility: Avoid all contact with incompatible materials such as strong acids, bases, and reactive products. Mixing with reactive or incompatible materials may result in a dangerous situation. A high exothermic reaction may take place and containers may build pressure sufficient enough to rupture the container.

Other: CONTAINER MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue (vapors and / or liquid) follow all SDS and label warnings even when container is considered empty. Do NOT cut, drill, grind, weld, braze on or near container.
### Section 8. Exposure Controls / Personal Protection

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>OSHA-PEL</th>
<th>ACGIH-TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyol Blend</td>
<td>Trade Secret</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Tris-iso-chloropropyl Phosphate</td>
<td>13674-84-5</td>
<td>N/A</td>
<td>N/A</td>
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<td>Surfactant 1</td>
<td>Trade Secret</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Surfactant 2</td>
<td>Trade Secret</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Reactive Tertiary Amine Catalyst Blend</td>
<td>Trade Secret</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>Flame Retardant 1 (NatureSeal only)</td>
<td>Trade Secret</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
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<td>Trade Secret</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Respiratory Protection:** Not normally required for non-spray exposure. If material is heated some vapors may be produced. Atmospheric levels should be maintained below the exposure limit. If no limit has been established, general or local ventilation should be utilized to minimize exposure. For spraying in an open air well-ventilated area a properly fitted full-face air purifying respirator with organic vapor cartridges should be used. In an enclosed area, fresh air-line respirators or self-contained breathing apparatus (SCBA) should be used to maintain exposure below the TLV.

**Eye Protection:** Use chemical splash goggles and face shield (ANSI Z78.1 or an approved equivalent). Eye protection worn must be compatible with the respiratory system employed.

**Hand Protection:** The gloves listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection.
- Butyl Rubber,
- Nitrile,
- Neoprene,
- PVC, or
- VITON.

**VITON** (registered trademark of I.E. DuPont)

**Other Protection:** Where splashing is possible, full chemically resistant protective clothing and boots are suggested.

### Facility Control Measures

**Ventilation:** OSHA, EPA, CPI –Spray Foam Coalition and the Spray Polyurethane Foam Alliance (SPFA) all publish guidelines for PPE and Ventilation during and after the application of spray foam insulation. Contact those organizations for further details.

Quadrant requires the following: a re-entry period up to 24 hours for occupied homes and up to 12 hours for other occupied structures; see Quadrant for greater details.

### Section 9. Physical and Chemical Properties

**Typical Physical Properties**

- **Appearance (physical State, color):** Liquid / Amber
- **Upper Flammability or explosive limits:** Not Available
- **Lower Flammability or explosive limits:** Not Available
- **Flash Point:** > 200 °F
- **Flammability (solid, gas):** Not Available
- **Auto Ignition Temperature:** Not Available
- **Decomposition Temperature:** Not Available
- **Odor:** Faint
- **Odor Threshold:** Not Available
- **Vapor Pressure:** Not Available
- **Vapor Density (Air = 1):** Not Available
- **PH:** Not Available
- **Density:** 1.08 - 1.20
- **Melting Point / Freezing Point:** Not Available
- **Solubility in Water:** Soluble
- **Boiling Point °C:** N/A
- **Evaporation Rate (BAC = 1):** Not Available
- **Partition Coefficient: n-octanol / water:** Not Available
- **Viscosity:** 150 - 1,000 cps @ 77 °F
Section 10. Stability and Reactivity

Chemical Stability: This material is considered stable under the specified conditions of storage, shipment, and/or use.

Hazardous Polymerization: Will not occur under normal use.

Incompatibility: Avoid all contact with incompatible materials such as strong acids, bases, and reactive products. Mixing with reactive or incompatible materials may result in a dangerous situation. A high exothermic reaction may take place and containers may build pressure sufficient to rupture the container.

Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides, Aldehydes, Ketones, and various Halogenated Compounds.

Section 11. Toxicological Information

Polyol Blend
- Inhalation LC 50 Rat: > 200 mg/l (1 hr.)
- Oral LD 50 Rat: > 5,000 mg/kg
- Dermal LD 50 Rabbit: > 2,000 mg/kg

Tris-iso-chloropropyl Phosphate
- Inhalation LC 50 Rat: > 4.6 mg/l, aerosol (4 hrs.)
- Oral LD 50 Rat: < 2,000 mg/kg
- Dermal LD 50 Rabbit: > 2,000 mg/kg (24 hrs.)

Surfactant 1
- Inhalation LC 50 Rat: N/A
- Oral LD 50 Rat: 2.83 ml/kg
- Dermal LD 50 Rabbit: 2.83 ml/kg (24 hrs.)

Surfactant 2
- Inhalation LC 50 Rat: N/A
- Oral LD 50 Rat: N/A
- Dermal LD 50 Rabbit: N/A

Reactive Tertiary Amine Catalyst Blend
- Inhalation LC 50 Rat: N/A
- Oral LD 50 Rat: N/A
- Dermal LD 50 Rabbit: N/A

Flame Retardant 1 (NatureSeal only)
- Inhalation LC 50 Rat: 8 mg/m³/1H
- Oral LD 50 Rat: > 10,000 mg/kg
- Dermal LD 50 Rabbit: > 20,000 mg/g

Flame Retardant 2 (NatureSeal only)
- Inhalation LC 50 Rat: N/A
- Oral LD 50 Rat: N/A
- Dermal LD 50 Rabbit: N/A

Water
- Inhalation LC 50 Rat: N/A
- Oral LD 50 Rat: N/A
- Dermal LD 50 Rabbit: N/A

Possible Acute Effects
Inhalation: Irritation of the respiratory tract, headaches, coughing, nausea, and dizziness.
Ingestion: Irritation to mouth, throat, esophagus, and stomach with nausea, vomiting, abdominal pain, and diarrhea.
Skin: Irritation and dermatitis.
Eye: Moderate to severe irritation with tearing, reddening, blurred vision, and pain.

Possible Chronic Effects
Carcinogenic: The components used in this product are not listed by NTP, IARC, or regulated as carcinogenic by OSHA.
Mutagenic: The components used in this product are not known to be mutagenic.
Reproductive Effects: The components in this product are not known to cause reproductive effects.
Developmental Effects: The components used in this product are not known to cause developmental effects.

Section 12. Ecological Information

This product as purchased has not been tested to determine the actual LC50 and EC50, but is expected to be moderately toxic to aquatic organisms on an acute basis. Use appropriate precautions to prevent any release into the environment when that release may result in contamination of rivers, streams, or bodies of water.

Aquatic Component Toxicity:

Polyol Blend
- LC50: N/A

Tris-iso-chloropropyl Phosphate
- LC50: 51 mg/l (96 hrs.) (Fish: fathead minnow); 180 mg/l (96 hrs.) (fish: bluegill sunfish)
- LC50: 131 mg/l (96 hrs.) (Daphnia magna)

Surfactant 1
- LC50: 4.8 - 7.7 mg/l (96 hrs.) (fish: fathead minnow); IC50: > 5000 mg/l (Bacterial)
- LC50: 6.6 mg/l (96 hrs.) (Daphnia magna); 21.4 mg/l (48 hrs.) (Daphnia magna)

Reactive Tertiary Amine Catalyst
- LC50: N/A
Section 13. Disposal Considerations

Waste Disposal: Under RCRA, it is the responsibility of the user of products to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, and processes may render the resulting material hazardous.

Product as purchased may be disposed of by incineration. Most states prohibit disposal of liquids in landfills. For disposal purposes, waste must be tested in accordance with applicable Federal, State, and Local regulations where the waste material is generated, treated, and / or disposed of to verify the appropriate classification.

Other: See SECTION 6 and SECTION 8 for any supplemental information.

Section 14. Transport Information

DOT Classification Non-regulated
Sea / IMDG classification Non-regulated
Air / ICAO / IATA Non-regulated
TDG Classification Non-regulated

Section 15. Regulatory Information

Work Place Classification: The product is considered hazardous under the OSHA Hazard Communication Standard (29CFR 1910.1200)

Section 311 / 312 (40CFR 370): Due to the potential for allergic skin reactions this product is categorized as an

Acute Health Hazard, Chronic Health Hazard, Fire Hazard

CERCLA Information (40CFR 302.4): This material does not have a reportable quantity under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304.

SARA Title III Section 302 (40 CFR 355) Not Regulated
SARA Title III Section 313 (40 CFR 372.65) Not Regulated
RCRA List of Hazardous Waste (40 CFR 261) This product, if disposed of in its purchased form, would not be considered a hazardous waste by listing or characteristic. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal if a material containing the product or derived from the product should be classified as a hazardous waste.

Chemical Control Law Status: All components of this product are listed or are excluded from listing on the USA Toxic Substance Control Act (TSCA) chemical substance inventory.
The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Quadrant Chemical Corporation assumes no responsibility for personal injury or property damage to vendees, users or third parties caused by the material. Such vendees or users assume all risks associated with the use of the material. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions, in addition to those described herein, are required. It is your responsibility to utilize the information we have supplied to develop work practice guidelines and employee instructional programs for the individual operation,