

Statguard® Static Dissipative Floor Finish Application Instructions & MSDS



Made in the
United States of America



Figure 1. Statguard® Static Dissipative Floor Finish

Description

Statguard® Static Dissipative Cross-Linked Floor Finish is used to dissipate static charges as well as limit triboelectric (static charge generation) charges while providing a clear, high gloss finish that resists wear. Statguard® Static Dissipative Floor Finish is a free flowing liquid cross-linked emulsion, which can be applied on any hard surface or sealed floor including vinyl, vinyl asbestos, linoleum, rubber, asphalt, sealed or painted wood, terrazzo and concrete. Statguard® technology eliminates the need for static control tile or floor mats. Statguard® Floor Finish dries in approximately one hour and is ideal for clean room and electronic manufacturing, assembly, and test areas. For use in environments with relative humidity of 30-65%.

SAFE WALKING SURFACE

UL Classified as to slip resistance only. Statguard® provides superior electrical properties along with a safe walking surface. Underwriters Laboratory has evaluated Statguard® and tested it to their slip resistance standards. To ensure employee safety and to mitigate user's liability exposure, it is important to use floor finish that has been successfully tested for slip resistance, and is properly installed and maintained.

General Guidelines

Statguard® Floor Finish eliminates triboelectric generated charges above 100V before costly damage can occur from personnel who approach static sensitive parts and products. Statguard® also drains static charges from personnel who forget to reattach their wrist straps minimizing the damage that could occur from handling. Even when using conductive tiles, a substantial triboelectric charge may be generated. When Statguard® Floor Finish is applied over conductive tiles, the enhanced floor tile limits charge generation, for example, due to a person walking across the floor.

Generally accepted industrial stripping and floor finish application procedures are to be followed as outlined on pages 2 and 3 in this technical bulletin. Note: to avoid contamination finish mop and bucket should be dedicated to Statguard® Floor Finish use only.

NOTE: Statguard® Static Dissipative Floor Care products do not have a set life span. The chemicals are not known to degrade over time when stored at the proper temperature conditions as stated in the Material Safety Data Sheet. We also recommend that these products be stored in their original containers and be sealed when not in use.

GROUNDING

Conventional grounding practices like electrically connecting Statguard® Dissipative Floor Finish to ground is only required for applications of static dissipative floor finish that are less than 50 square feet. For applications that are greater than 50 square feet, the capacitance of Statguard® Floor Finish is MANY, MANY times greater than the capacitance of the human body model. The difference in capacitance is so great that the Statguard® treated floor acts as a theoretical reservoir or natural ground. The capacitance and surface resistance of the Statguard® treated floor will decay a 5000v charge to zero in .05 sec. per FTMS 101B, Method 4046. Statguard® has substantially less than the maximum static decay time of 0.1 seconds. Per ESD Handbook ESD TR20.20 section 5.3.4.2 "Floor finishes and topical antistats, function by two separate mechanisms. First they reduce the surface's tendency to generate a static charge. Second, they provide a path for the dissipation of charge. The charge may dissipate over the surface of the finish or it may dissipate to ground if the floor finish is grounded."

To remove charge from personnel, ESD footwear is to be used in conjunction with ESD flooring. ESD footwear should be worn on both feet.

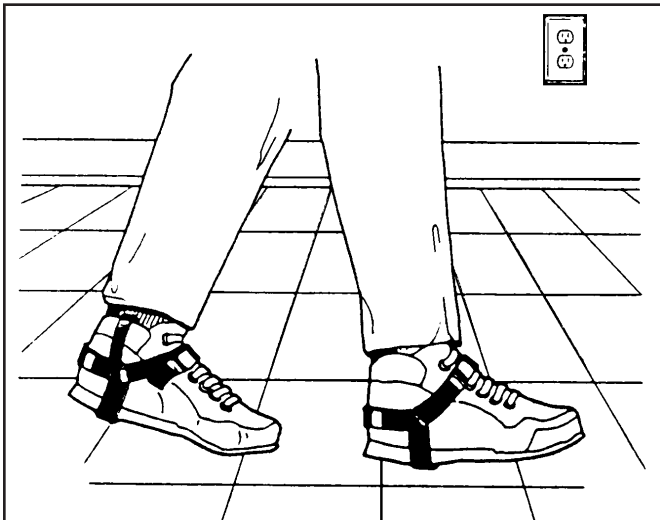


Figure 2. ESD footwear should be used on ESD flooring.

CONCRETE

Two measures are used to determine a good concrete surface for Statguard® Floor Finish:

1. The surface should be cleaned of all contaminants.
2. The surface should be dry or sealed.

SURFACE

Surface to be finished should be clean, dry, and smooth. Heavy dirt or grease build up should be removed with a stripper or degreaser. DO NOT use Statguard® on surfaces colder than 45° F. Statguard® Dissipative Floor Finish contains zinc.

SEALING

Surface preparation is absolutely critical for porous materials such as concrete. Proper preparation simplifies application, increases durability, and is essential for proper adhesion of the coating to the substrate. Industrial grade polyurethane, vinyl, or acrylic base sealers are recommended to seal high porosity floors before applying the Statguard® Floor Finish. Enamel can be used for bare wood, and enamel undercoat with rust inhibitor for metal.

New concrete should cure for 60 days before sealing. Not all concrete surfaces are created equal. They vary widely in physical and chemical qualities due to the way the concrete was originally formulated, poured or finished.

Concrete surfaces are very porous and should be properly sealed prior to the application of Statguard® Floor Finish. There are several methods to prepare problem concrete. Each method depends on the condition of the concrete. Cleaning methods range from: sweeping, vacuuming, wire brush, air-blasting, water jet, steam cleaning, or stripping. Adhesion properties for the concrete sealer can be increased by profiling or roughing surface through acid etching, rotary drum sanding, scarifying, or mechanically

scratching the surface. The concrete sealer will reduce the porosity of the concrete and provide a smooth and level surface for the finish. The sealer also provides a barrier to prevent any water migrating up through the concrete.

No Sealer Application: Sealing is recommended for increasing coverage and correcting problem concrete surfaces that are not dry or free from grease, oil, etc. If the subfloor surface is dry, level, and free from dirt, grease, oil, paint, sealer, old adhesives, and other foreign materials it may be suitable to applying Statguard® finish directly onto the concrete.

COVERAGE

Statguard® Floor Finish covers approximately 2000 square feet per gallon per coat on smooth surfaces. Coverage is less on coarse or textured surfaces. With 18% solids, Statguard® Floor Finish is easier to apply with significantly better productivity than competing brands.

DRY TIME

It is recommended that Statguard® be allowed to dry at room temperature in excess of 70°F for 1 hour or until dry for each coat. At high relative humidity levels, a longer drying time per coat may be necessary. Do not use force air drying. After the last coat, wait 6 hours before any light traffic, 12 hours before regular traffic, 72 hours before any wet maintenance, buffing, burnishing, and heavy equipment and floor truck traffic.

SECURELY CLOSE CONTAINER AFTER EACH USE.

Optional Base Coat

Statguard® Conductive Epoxy or Acrylic Latex Paint can be used as a base coat to enhance the electrical properties where more conductive resistance is needed. Statguard® Dissipative Floor Finish will seal out dirt, debris and protect the conductive surface allowing for ease of maintenance and enhanced shine. Statguard® Dissipative Floor Finish is a polymer base floor finish/sealer that can be used as a top coat on the Conductive Epoxy or Latex Paint. Two coats are recommended, three coats will enhance electrical properties, durability and reduce frequency of maintenance. Look online at DescoIndustries.com for Technical Bulletin [TB-7039](#) for more information on Statguard® Conductive Epoxy or Acrylic Latex Paint.

Floor Preparation - Stripping

Always use in a well ventilated area. Stripping the floor is recommended for first time application of any finish. New tiles are supplied with a protective factory finish that protects during installation but should be stripped away prior to any floor finish application. Properly maintained floors should be stripped two to four times annually, depending on traffic and buildup of contaminated finish. Statguard® Floor Stripper is recommended.

Equipment needed:

- Push broom
- Single pad 175 rpm swing floor machine (with a black or brown stripping pad)
- Mops (do not use the same mop for stripper and for floor finish)
- Buckets (do not use the same bucket for stripper and for floor finish)
- Statguard® Floor Stripper
- Wet vacuum

1. Sweep away all loose dirt and trash.
2. Mix Statguard® Floor Stripper 3:1 three (3) parts WARM water to one (1) part stripper.
3. Apply stripper liberally to around 200 square foot area in need of stripping. Using a cotton string mop, uniformly distribute the solution. Let the solution stand for 5-15 minutes. Do not let it dry.

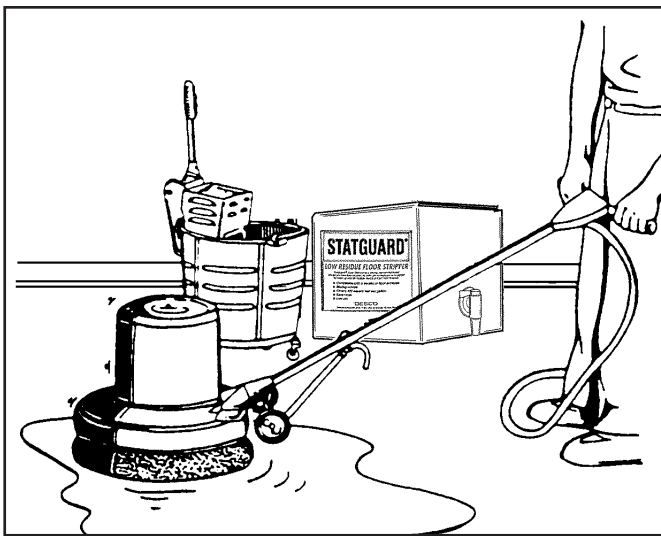


Figure 3. Stripping the floor

4. Scrub the floor with the floor machine at 175 rpm (using a stripping pad soaked in stripping solution). Work methodically, with at least two passes over each area of the floor.
5. After scrubbing, pick up the solution with a wet vac or mop.
6. Flood rinse the floor with clean, clear water.

Note: Using Statguard® Floor Neutralizer can reduce the number of rinse steps needed to get the floor to pH level 7.0 (neutral).

7. Pick up the rinse water with a wet vac or mop.
8. Repeat steps 5 and 6. Entire floor should be rinsed twice.
9. Damp mop the floor at least twice with clean mop and clean water (change rinse water frequently to ensure that all stripper solution residue is removed), and let dry.

10. Visually inspect floor to be sure all stripper and old polish (shiny spots) have been removed and test pH level.

It is recommended to test the stripped surfaces after the second rinse to ensure that high pH residues are rinsed away. Some high pH strippers will leave a residue behind even after several rinses. A high pH can negatively affect the floor finish curing time as well as other properties of the finish. To test for high pH residue, test either the rinse water or the floor using either a pH measuring instrument or a piece of pH indicating litmus paper. A safe pH will be 7.0 (neutral).

Statguard® Floor Finish Application

It is recommended that you apply two coats of Statguard® Floor Finish. After stripping the factory finish, new tile will have an initial high porosity and will require three coats on first application. For known high traffic applications, three coats are recommended for extended life.

- If Statguard® freezes, allow it to thaw to 70° F and mix completely before application.



Figure 4. Applying floor finish.



Figure 5. Applying floor finish with Flat Mop (optional).

FLAT MOP PROGRAM (OPTIONAL)

1. Flat mop can come with a refillable dispenser, that allows for easier determination of proper amount of Floor Finish / sq ft. For example, if the floor finish application rate is 1 gallon / 2000 sq ft, a 32 oz dispenser holds 500 sq ft of finish.
2. Flat mopping systems reduce workers fatigue as they are lighter in weight. Roughly three pounds when wet vs the traditional cotton loop mops which can weigh eight to ten pounds when wet.
3. The Flat mop with dispenser is faster, as one does NOT need to constantly "dip the mop and squeeze out excess".
4. The flat mop doesn't hold as much residual finish as a string mop, so the application of the proper amount of Floor Finish, is more precise.

Equipment needed:

- Clean rayon (or cotton blend) mop, dedicated to Statguard® Floor Finish use only
 - Bucket dedicated to Statguard® Floor Finish use only.
 - Flat mop (Optional)
1. Pour Statguard® Floor Finish into a clean and dedicated mop bucket and apply with a clean rayon (or cotton blend) mop using a figure 8 motion.
 2. Let the first coat dry (at least 60 minutes), then apply a second coat. Do not use force air drying.
 3. Let second coat dry for (at least 60 minutes) to yield a bright gloss. Repeat application to attain higher gloss and higher conductivity (two coats will provide acceptable dissipative resistance on most floors). Keep traffic from the floor for at least six hours after the last coat is applied. See dry time recommendations on page 2 in this technical bulletin.
 4. One or preferably two additional coats of floor finish should be applied if the floor is to be maintained by dry burnishing or spray buffing.
 5. Maintain the polish following the Dust Mop, Damp Mop, Floor Cleaner, Dry Burnish, or Spray Buff maintenance procedure below.

Statguard® Maintenance

DUST MOP PROGRAM

1. Keep the floor surface clean. Use an untreated dust mop or push broom nightly or as needed to remove accumulated dirt and insulative contaminant.

DAMP MOP PROGRAM

1. Keep the floor surface clean. Use an untreated dust mop or push broom nightly or as needed to remove accumulated dirt and insulative contaminant.

2. To damp mop, use a 1 to 3 dilution of Statguard® Floor Finish in water (1 part Statguard® to 3 parts water). Let dry thoroughly. The mop and bucket should be dedicated to Statguard® use only.

MOP and RECOAT PROGRAM

To replenish solids that are worn away over time, a mop and recoat can be done after cleaning the surface. This can improve gloss and snap back electrical properties.

1. Follow the Damp Mop Program to clean the surface above (do not use the floor cleaner)
2. Pour Statguard® Floor Finish (undiluted) into a clean and dedicated mop bucket and apply a medium coat with a clean rayon (or cotton blend) mop using a figure 8 motion.
3. Let the coat dry (at least 60 minutes), then apply a second coat if needed. Do not use forced air drying.

FLOOR CLEANER PROGRAM

Statguard® Floor Cleaner will clean surface stains and heel marks. As a cleaner it will reduce the gloss of the floor. Do not re-apply Statguard® finish after using Statguard® Floor Cleaner, see Mop and Recoat program.

Heavy-Moderate Traffic:

Clean once a week, or as dictated by floor appearance.

Low Traffic Floors:

Clean floors as dictated by floor appearance.

1. Dust mop with untreated mop.
2. Dilute Statguard® Dissipative Floor Cleaner 10 parts clean water to 1 part Floor Cleaner. For example, use five (5) gallons of clean water to two (2) quarts of floor cleaner.
3. Damp mop floor with cleaner solution and let dry thoroughly. The mop and bucket should be dedicated to Statguard® use only.

DRY BURNISH PROGRAM

Heavy-Moderate Traffic:

A dry burnish program will increase gloss and remove surface imperfections.

Dry burnish once a week or as dictated by floor appearance.

Low Traffic Floors:

Dry burnish as dictated by floor appearance.

1. Dust mop with an untreated mop.
2. Dry burnish at 1000-2000 rpm.
3. After dry burnish, dry mop the area with an untreated dry mop if necessary.

SPRAY BUFF PROGRAM

A spray buff program will repair scratches, marks, and other imperfections as well as gloss.

Heavy-Moderate Traffic:

Spray buff once a week or as dictated by appearance.

Low Traffic Floors:

Spray buff as dictated by floor appearance.

Equipment needed:

- Untreated dust mop
- Spray bottle
- 175-1500 rpm buffing machine with appropriate pad

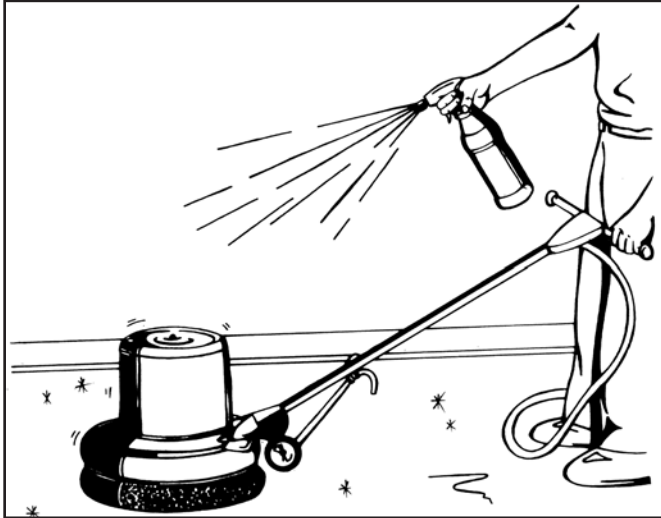


Figure 6. Applying Spray Buff.

1. Dust mop with an untreated mop or push broom.
2. At 175-300 rpm, use a red pad. At 1000-1500 rpm use a white or beige pad.
3. Spray a small area with a mixture of one part Statguard® and two parts water. Spray lightly.
4. Buff the sprayed area until clean and glossy. All black marks and scuffs should be removed.
5. After high speed spray buffing, dry mop the area, if needed, with an untreated mop.

Tailoring Statement for Statguard® Dissipative Floor Finish

Consider a Tailoring Statement to your written ESD control plan. The required limit for ESD flooring per ANSI/ESD S20.20 is less than 1×10^9 ohms, tested per ANSI/ESD S7.1 for product qualification, and per ESD TR53 for compliance verification. The benefit of resistance is the ability to be grounded (removing charges to ground). Data shows that Statguard® Dissipative Floor Finish is well below the personnel grounding product qualification required limit of less than 100 volt charge (tested per ANSI/ESD STM97.2). Since it is very low tribocharging, consider using the Statguard® Dissipative Floor Finish Maintenance procedure below.

- when the Rtt resistance measures towards the high end of 10^{10} ohms, maintenance requested is to clean and re-apply another coat of Statguard® Dissipative Floor Finish
- when the Rtt resistance measures 10^{11} ohms, manufacturing is discontinue work until maintenance cleans and re-applies another coat of Statguard® Dissipative Floor Finish

Note: Leading companies have become certified to ANSI/ESD S20.20. The first ESD program in the United States to be certified to ANSI/ESD S20.20 uses Statguard® Dissipative Floor Finish & uses the above maintenance schedule.

Physical Properties

Base: Acrylic Polymer

Description:

Aqueous Acrylic Emulsion, Non-hazardous material as defined in (29 CFR 1915.4)

Abrasion Resistance:

Exc. Crockmeter at 50% R.H.

Color: Off White Opaque

Density: 8.42 lbs/gal

Freeze/Thaw Stability:

Exc. 3 Cycles at -10°C

pH: 8.8

Slip Resistance: UL Approved*

Solids: 18%

Solvent: Water

Thermal Stability:

Exc. 50°C /1 month

Viscosity: 3.3 cps

Working Humidity:

Range 30-60% RH

Electrical Properties

Surface Resistance:

1×10^7 to $<1 \times 10^{10}$ ohms per ANSI/ESD S7.1 and ESD TR53

Low Charging:

<50 volts per ANSI/ESD STM97.2

Charge Decay:

5000v to 0 in 0.01 sec per FTMS 101C 4046

*Underwriters Laboratory (UL) tested for slip resistance only. Authorization and Registration Number SA6524.

CLEAN ROOM CHARACTERISTICS

| Contaminant | Dried Film | Liquid (Outgassing) |
|-------------|------------|------------------------|
| Sodium | Zero | Zero |
| Fluoride | Zero | Zero |
| Chloride | Zero | Zero |
| Bromide | Zero | Zero |
| Iodide | Zero | Zero |

- Dried film testing was completed to simulate particulating.**
- Liquid analysis completed using GLC (gas-liquid chromatography)**

** Analysis conducted at Armstrong Corporate Research Center, Lancaster, PA.

Testing

It is recommended to test the surface resistance periodically to ensure that insulative contaminants such as dirt and grime are not building up on the surface. The surface should be kept clean.

Testing either point to point resistance (Rtt) or resistance to ground (Rtg) per ESD TR53 will indicate if the floor finish needs surface maintenance. If the surface is clean, with high resistance readings this indicates that the floor finish is becoming thin and in need of replenishing its solids. These solids are worn away over time due to floor traffic. Hence, the high floor traffic areas will need more frequent maintenance than low traffic areas.

For quick and easy verification of surface resistance, we recommend the use of our Surface Resistance Meter Kit.



Figure 7. Surface Resistance Meter Kit

Limited Warranty

Desco Industries Inc. expressly warrants that for a period of one (1) year from the date of purchase, our Statguard® Static Dissipative Floor Finish will be free of defects in material. Within the warranty period, the material will be replaced at our option, free of charge. Call our Customer Service Department at 781-821-8370 or 00 44 (0) 1892-665313 in Europe for a Return Material Authorization (RMA) and proper shipping instructions and address. You should include a copy of your original packing slip, invoice, or other proof of purchase date. Any material under warranty should be shipped prepaid to the Desco Industries Inc. factory. Warranty replacements will take approximately two weeks.

Warranty Exclusions

THE FOREGOING EXPRESS WARRANTY IS MADE IN LIEU OF ALL OTHER PRODUCT WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH ARE SPECIFICALLY DISCLAIMED. The express warranty will not apply to defects or damage due to accidents, neglect, misuse, alterations, operator error, or failure to properly maintain, clean or repair products.

Limit of Liability

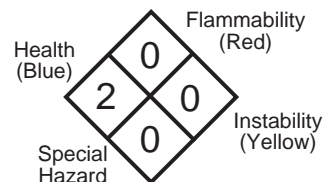
In no event will Desco Industries Inc. or any seller be responsible or liable for any injury, loss or damage, direct or consequential, arising out of the use of or the inability to use the product. Before using, users shall determine the suitability of the product for their intended use, and users assume all risk and liability whatsoever in connection therewith.

Material Safety Data Sheet

May be used to comply with ANSI Z400.1-2004, 29 CFR 1910.1200, European-Union Directive 2011/65/EU, REACH 1907/2006/EC, and GHS. Standard must be consulted for specific requirements.

NFPA Designation 704

Degree of Hazard: Each colored section is labeled with a number from 0-4 to indicate the level of hazard. On this scale, 0 indicates "no hazard" while 4 means "severe hazard".



HMIS RATING:

Health 1, Flammability 0, Physical Hazard 0, Personal Protection B

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name/Identity: Statguard® Static Dissipative Floor Finish
Chemical Name: Acrylic Floor Finish
Manufacturer: Desco Industries, Inc.
Address: One Colgate Way
Canton, MA 02021
Telephone: 781-821-8370
Emergency Number: 781-821-8370
Date Prepared: 2013-05-14

SECTION 2 — HAZARDS IDENTIFICATION

Routes of Entry
Eyes: A high concentration of liquid, mist, or vapor may cause irritation of the connective tissue.
Skin: Repeated or continuous contact may cause irritation of the skin.
Ingestion: None known
Inhalation: Irritation of nose, throat, and lack of breath. Exposure to vapors in high concentration may have same effect as with inhalation.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

| Ingredients: | CAS No. | Weight (%) |
|------------------------------------|-----------|------------|
| Water | 7732-18-5 | 30-60% |
| Modified Acrylic Polymer | (NonHaz) | 30-60% |
| Emulsified Waxes | (NonHaz) | 5-25% |
| Trade Secret 120505MA106 | (NonHaz) | 1-10% |
| Diethylene Glycol Monoethyl Ether* | 111-90-0 | 1-5% |
| Tributoxy Ethyl Phosphate | 78-51-3 | 1-5% |

*This item is listed and subjected to the reporting requirements of the SARA Title III Section 313 Inventory of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR372.

SECTION 4 — FIRST AID MEASURES

Symptoms of Exposure: (Acute and Delayed)
Inhalation: Minor irritation
Skin: Slight irritation
Eyes: Slight Irritation

Signs and Symptoms of exposure: Prolonged skin exposure may cause minor irritation skin – dryness.

Emergency and First Aid Procedures:
Eye Contact: Flush with water for at least 15 minutes.
Skin Contact: Wash with soap and water
Ingestion: Drink several glasses of water. DO NOT induce vomiting. Contact a physician.
Inhalation: Move subject to fresh air.
Medical Conditions: Generally Aggravated by Exposure Overexposure may aggravate Asthma.

SECTION 5 — FIREFIGHTING MEASURES

Proper Extinguishing Media: Foam, CO₂, DC, and water
Unsuitable Extinguishing Methods: N/A
Protective Equipment & Precautions: Wearing of appropriate protective equipment
Flash Point (Method Used): N/A
Flammable Limits: N/A
Special Fire Fighting Procedures: N/A
Unusual Fire and Explosion Hazards: None known.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

| | |
|----------------------------------|---|
| Personal Precautions: | Wearing protective clothing. Inhalation protection. Extinguish all ignition sources. |
| Environmental Precautions: | Keep spills and cleaning runoffs out of municipal sewers and open bodies of water. |
| Waste Disposal Method: | Absorb with sand or other diminishing material. Coagulate the emulsion by the stepwise of Ferric Chloride and Lime. Remove the clear supernatant liquid and flush to a chemical sewer. Incinerate the solids and the contaminated diking material according to local, state, and federal regulations. |
| If Material is Released/Spilled: | Keep spectators away. Dike and contain spill with inert material (e.g. sand, earth). Keep spills and cleaning runoffs out of municipal sewers and open bodies of water. |

SECTION 7 — HANDLING AND STORAGE

| | |
|--------------------|--|
| Handling: | Use in well-ventilated areas; avoid breathing vapors. Keep containers closed when not in use. Avoid from freezing. |
| Storage: | Storage temperature: Max. 49°C/120°F 1°C/34°F |
| Other Precautions: | Store in a cool, dry place with adequate ventilation. Keep from freezing - product may coagulate |

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits

| Component | List | Type | Value |
|--|------|------|--------------------------------|
| Diethylene Glycol Monoethyl Ether (111-90-0) | WEEL | TWA | 140 mg/m ³ / 25 ppm |

Personal Protection

| | |
|------------------------|--|
| Eye/Face Protection | Use safety glasses. Where contact with the material is likely, chemical goggles are recommended because eye contact may cause discomfort even though it is unlikely to cause injury. |
| Skin Protection | No precautions other than clean body covering clothing should be needed. |
| Hand Protection | Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized. |
| Respiratory Protection | Atmospheric levels should be maintained below the exposure guideline. |
| Ingestion | Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating. |

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|--|
| Form: | Liquid |
| Colour: | Opaque, tan liquid |
| Odor: | Wax or ammoniacal odor |
| Boiling Point: | >200°F (100°C) |
| Melting Point: | N/A |
| Specific Gravity (H ₂ O = 1) : | >1.0 |
| Solubility in Water: | Complete |
| pH: | 8.0-9.0 |
| Flash Point: | Noncombustible |
| Flammability Limits: | N/A |
| Solubility in water: | Complete |
| Vapor Pressure (mm Hg): | N/A |
| Vapor Density (air=1): | N/A |
| Viscosity | 3.3 cps |
| Density at 20°C: | 8.6 lbs./gal |
| Flammability: | Classification according to EC-regulations "non-flammable" |
| Ignition Temperature: | N/A |
| Evaporation Rate: | N/A |
| VOC | 0%* |

*Per Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Section 94508

SECTION 10 — STABILITY AND REACTIVITY

| | |
|---------------------------------------|---|
| Hazardous Polymerization: | NE |
| Hazardous Decomposition/Byproducts: | Thermal decomposition may yield acrylic monomers. |
| Incompatibility (Materials to Avoid): | N/A |
| Stability: | Stable product at normal conditions. |
| Conditions to Avoid: | Temperatures above 49°C/120°F Below: 1°C/34°F |

SECTION 11 — TOXICOLOGICAL INFORMATION

Diethylene glycol monoethyl ether (111-90-0)

Acute Toxicity

Ingestion – LD50, Rat 1,920-9,050 mg/kg

Skin Absorption - >8,400 mg/kg

Chronic Toxicity and Carcinogenicity

Did not cause cancer in lab animals

Developmental Toxicity

Did not cause birth defects or any other fetal effects in lab animals

Reproductive Toxicity

Studies in lab animals indicate that diethylene glycol monoethyl ether is not a reproductive toxicant even when given in large amounts.

Genetic Toxicology

In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.

Tributoxyethyl phosphate (78-51-3)

Acute Toxicity

Oral – LD50, Rat 3,000 – 9,000 mg/kg

Inhalation – LC50, Rat >64,000 mg/m3/4hr

Trade secret 120505MA106

Acute Toxicity

Oral – LD50, Rat 526 mg/kg

Dermal - LD50, Rat >2,000 mg/kg

Inhalation – LC50, Rat >5.53 mg/L

ROUTE OF EXPOSURE

| | |
|-----------------|--|
| Skin Contact | Causes skin irritation. |
| Skin Absorption | May be harmful if absorbed through the skin. |
| Eye Contact | Causes mild eye irritation. |
| Inhalation | May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract. |
| Ingestion | May be harmful if swallowed. |

SECTION 12 — ECOLOGICAL INFORMATION

| | |
|------------------------|--|
| Mobility: | The product is aqueous and will be separated in aqueous conditions |
| Degradability: | N/A |
| Bioaccumulation: | Not likely |
| Ecotoxicity | None known |
| Reference to BimSchV: | N/A |
| Hazard Classification: | None hazardous |

SECTION 13 — DISPOSAL CONSIDERATIONS

| | |
|-------------------------|---|
| Product: | Coagulate the emulsion by the stepwise of Ferric Chloride and Lime. Remove the clear supernatant liquid and flush to a chemical sewer. Incinerate the solids and the contaminated diking material according to local, state, and federal regulations. |
| Hazardous Waste Number: | Non Hazardous |

SECTION 14 — TRANSPORT INFORMATION

This product is not classified for transport under ADR/IMDG regulations

SECTION 15 — REGULATORY INFORMATION

| | |
|-------------------------------|---|
| Physical/Chemical Indication: | Non-flammable |
| Risk-phrase | (R36/38): irritates eyes and skin |
| Safety Phrase | (S2): keep away from children, (S7): keep containers well closed, (S24/25): avoid contact with skin and eyes, (S62): if swallowed, do not induce vomiting; seek medical advice immediately and show this container or label. |

RIGHT TO KNOW (RTK)

| Ingredients | CAS # | MARTK | NJRTK | PARTK |
|-----------------------------------|-----------|-------|-------|-------|
| Water | 7732-18-5 | - | - | X |
| Diethylene glycol monoethyl ether | 111-90-0 | - | X | X |
| Tributoxyethyl phosphate | 78-51-3 | - | X | X |

The following components are defined as a "Hazardous Chemical" by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986 Sections 311, 312, 313)

Diethylene Glycol Monoethyl Ether (111-90-0)

Sections 311, 312, and 312

Delayed (Chronic) Health Hazard

Fire Hazard

Tributoxyethyl phosphate (78-51-3)

Sections 311 and 312

Delayed (Chronic) Health Hazard

Trade Secret 120505MA106

Sections 311 and 312

Immediate (Acute) Health Hazard

International Inventories at All components of this product are listed on or exempt from the CAS# Level:

following inventories:

U.S.A (TSCA), Canada (DSL/NDL)

California Proposition 65:

This product is not subject to the reporting requirements under California's Proposition 65

EU Classification:

This product does not have to be classified according to the EU Regulations. (67/548/EEC-88/379/EEC)

EINECS Status:

All components are included in the EINECS Inventories

WHIMIS: Canada hazard class: Non-controlled. This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

REACH: Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals. As of 2012-09-27 Desco Industries Inc. has completed an assessment of all of our products and is not under any obligation to register.

SECTION 16 — OTHER INFORMATION

HMIS RATING: Health 1, Flammability 0, Physical Hazard 0, Personal Protection B

NFPA RATING: Special Hazard 0, Health 2, Flammability 0, Reactivity 0

Disclaimer

The information given in this publication has been worked up to the best of the knowledge of Desco Industries Inc, as well as taking into consideration the applicable laws and regulations. We cannot anticipate all conditions under which this information and our products or the products of the manufacturers in combination with our products may be used. We accept no responsibility for the results obtained by the application information or the safety and suitability of our product or product combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purposes. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other products.

N/A = Not Applicable; NE = None Established