Statguard® Conductive Epoxy Application Instructions

Made in the United States of America

Figure 1. Statguard® Conductive Epoxy, Parts A and B

Test Patch Requirement

A test patch on new applications is required to receive a full product warranty.

Prior to the shipment of your Statguard® Conductive Epoxy, Desco Industries Inc. (DII) will provide samples and technical documentation for installing the test patch. The test patch will allow for a full evaluation of the floor preparation and of our Statguard® Conductive Epoxy, performance features to include color, adhesion, physical properties and electrical resistance.

Test Patch application instructions are located in the Surface Preparation section. DII's test patch customer sign off document is located on our web sites (link not available yet) or contact customer service.

If your test patch is on a bare or prepped concrete surface, we recommend Baril WB 500 Water Base Primer / Tinted Light Grey and Baril 1100 High Build Primer to achieve proper performance of the Statguard® Conductive Epoxy properties. Please contact Baril at 260-665-8431 for additional product details.

Description

Statguard® Conductive Epoxy is a waterborne, two-part epoxy floor coating formulated to control the dissipation of static electricity and provide path to ground. Statguard® Conductive Epoxy is very effective as a static control floor coating for electronics manufacturing, assembly, and storage. It is available in light grey RAL7038 / Pantone 5517C, in 4 gallon (15.14 liter) kits. The color may vary between production lots.

Statguard Conductive Epoxy meets ANSI/ESD S20.20 and EN 61340-5-1 required limits of < 1 x 10^9 ohms for ESD flooring and is suitable for the flooring component in Footwear / Flooring Systems (< 1 x 10^9 ohms per ANSI/ESD STM97.1 and IEC 61340-4-5 and < 100 peak body voltage per ANSI/ESD STM97.2)

Per ESD Handbook ESD TR20.20 ESD Floor section 5.3.4.7.3 "Epoxy and Polymeric Overlayments...have good chemical, solder, and abrasion resistance and will withstand heavy vehicle traffic. They are easier to maintain in comparison to other materials. They are seamless and can be used in many clean room environments. However, they cannot be used on access floor panels. Because epoxies are virtually manufactured on-site, proper installation techniques are critical to the successful performance of this type of material."

Per CLC/TR 61340-5-2 User guide sub clause 4.7.3.6.2.4 Paints and coatings "Paints and epoxy coatings are applied to concrete floors in thin coats. The primary advantages of these materials are their ease of application and coverage over a wide area. They have a longer usable life than do floor finishes, but less than permanent floor materials. Paints and coatings tend to wear off in time and shall be reapplied on a continuing basis. Some materials are not applicable for clean rooms because they abrade or chip away or are highly loaded with carbon."

Statguard® Conductive Epoxy applied in excess of 20 square feet (1.8 square meters) enable the surface to dissipate 5000 volts to zero in less than 0.01 seconds per FTMS 101C, Method 4046 without conventional grounding grids or wires. The conductive coating becomes a capacitive reservoir that effectively drains static charges. ESD footwear is to be used in conjunction with Statguard® Conductive Epoxy to ground personnel.

When using foot grounders on our Statguard® Conductive Epoxy its max 23 volts walking (Reference: ANSI/ESD STM97.2) at 15%rh. Standing is near Zero.

When using our Statguard® Conductive Epoxy with Statguard® Low-VOC Dissipative Floor Finish (coated) its similar results at 24 volts at 15%RH. As humidity increases voltages go lower towards zero.

Floor Sample	Shoe Grounder	Standing Voltage		Walking Voltage	
		15%RH	50%RH	15%RH	50%RH
Epoxy	Heel	0	-1	23	3
Epoxy	Full Sole	1.5	-3	8	3
Epoxy	Full Sole	0	-3	9	3
Coated Epoxy	Heel	1	0	24	4
Coated Epoxy	Full Sole	9	-1	11	-2
Coated Epoxy	Full Sole	0	0	13	3

Figure 2. Walking and Standing Voltage Summary

NOTE: *The product should not be allowed to freeze. If the epoxy part A or part B freezes surround the closed container with hot water to thaw completely and melt the crystals back into liquid. Make sure epoxy is then brought up to room temperature 70°F (20°C) before mixing and using. Store at temperatures above 50 °F (10°C) as stated in the Safety Data Sheet. We recommend that these products be stored in their original containers and be sealed when not in use. We cannot guarantee performance if not properly stored, mixed or not installed before 3 months from date of sale.*

Moisture and pH Testing

Moisture in Flooring

For applications on concrete or porous surfaces, excess moisture in or below the material or concrete slab is the cause for many coating failures. Failures such as bond failures, warping, peeling, and bubbles can appear months or years later due to the flow of moisture or moisture vapor through concrete. Ways to avoid such failures include: placing concrete over an efficient vapor barrier, use low water-cement ratios in the concrete mix, adequately cure concrete, and test and measure moisture transmission using a calcium chloride test. The moisture levels cannot exceed 3 lbs. per 1,000 square feet per 24 hours a day.

Moisture Testing

Test the floor for moisture using a Calcium Chloride moisture test kit. The moisture levels cannot exceed 3 lbs. per 1,000 square feet per 24 hours a day. Ensure that your floor is porous and breathing well before performing the test. If it is nonporous, then sand it with very abrasive sandpaper to open it up. It is porous enough when a few drops of water dropped on the surface readily absorb within 30 seconds. One test should be performed at every 1,000 square feet of space.

Note: Keep in mind, that even if a moisture test shows that the floor has acceptable moisture levels, it is only at the time of the test that the levels were acceptable. It is possible for the weather, sprinkler systems, or other causes to bring the floor to unacceptable levels of moisture. Therefore, it is very important that some moisture vapor control and prevention was built for the floor as well, in the way of a moisture barrier. If no moisture barrier exists, then one should be installed. Any on or below grade slab should have a moisture barrier, according to industry standards. These recommendations are about our products ability to bond to sub floors.

pH Testing

The proper floor pH before applying our product should be 7 (neutral). We recommend you test the floor pH prior to installing the Statguard® Conductive Epoxy to confirm. If the floor tests above pH7 the floor must be neutralized before installing the Statguard® Conductive Epoxy.

Subfloor Preparation

Concrete Floors, Poured Concrete

Cure at least 30 days. Acid etch or abrasive blast slick, glazed concrete or concrete with laitance. Test for moisture vapor content. Use compatible epoxy primer on concrete.

Concrete as Under Layment

This should be heavy weight, or a manufacturer's guaranteed cement mix, installed according to manufacturer's specs. An out-of-level floor needs to be leveled by an experienced installer. Use a Portland cement type-leveling compound that will provide a minimum 3,500 PSI compressive strength (ASTM C109), be sufficiently bonded to the floor and properly dried prior to installation of flooring. Failures can occur from patch or leveling compound not given sufficient time to dry.

Concrete Sub-Floor Preparation

ASTM F710-92 should be followed in preparing concrete sub floors to receive floor coatings. Fill all cracks, depressions, etc. with the leveling compounds according to manufacturer's specifications. The sub floor needs to be clean, dry, smooth, level, structurally sound and free of dust, solvent, oil, grease, wax, paint, sealing compounds, old adhesive, or other foreign materials.

Remove any curing, hardening, or breaking compounds using mechanical means, not solvents or chemicals. Epoxy primer should be used to prepare bare and prepped concrete surfaces. Use a compatible primer such as Baril High Build 1100 or Baril WBE500 Series Epoxy Primer. Installing Statguard® Conductive Epoxy on improperly prepared surfaces will void product warranty and cause product failure.

Previously Painted Surfaces

Old coatings should be tested for lifting. If lifting occurs, remove the lifted coating. Otherwise, scuff or sand glossy areas and aged epoxy coatings. Clean aged epoxy or urethane coatings. Remove cracked and peeling paint.

New Surfaces

Steel - New steel surfaces should be initially blasted to near-white metal surface cleanliness.

Galvanized Steel - Remove dirt and oils by solvent cleaning followed by a thorough water rinsing.

Concrete Block - Remove loose aggregate and repair voids.

Before Applying

NOTE: FOR INTERIOR USE ONLY. NOT INTENDED FOR EXTERIOR USE.

The surface must be clean, dry, free of oil, grease, form release agents, curing compounds, laitance, other foreign matter and be structurally sound. Remove all loose paint, mortar spatter, mill scale, and rust.

Epoxy primer is recommended for applications on bare and prepped concrete surfaces. Use of a compatible primer such as Baril High Build 1100 or WBE500 Series Epoxy Primer. Statguard® Conductive Epoxy on improperly prepared surfaces will void product warranty and will cause product failure.

Test Patch Application Procedure

Application tools

1/8" Notched Squeegee - Statguard® Conductive Epoxy may be spread using a 1/8” notched squeegee to uniformly spread and bring the epoxy to the proper thickness before rolling.

3/8" Nap Roller – Use a 3/8” Nap roller that is rated for epoxy use.

Mixer tool – use an industrial paint mixer blade designed for 2 part epoxy and an electric mixer.

Statguard® Conductive Epoxy Test Patch Application Instructions:

1. Tape off a 50 square feet area
2. Prep test patch area per technical bulletin
3. Mechanically mix up the pre measured epoxy kit – note 30 minute pot life
4. Pour a ribbon of epoxy onto the prepared floor
5. Spread epoxy evenly on the floor using a 1/8” notched squeegee
6. Back roll in both directions using a 3/8" Nap epoxy roller

Note: If the test patch area is bare or had any texturing done to remove prior coatings and open up the pores of the concrete surface a compatible epoxy primer will be required . The gloss of the Statguard® Conductive Epoxy will depend on the resulting floors surface texture from the primer. Reducing the surface texture with a thicker or multiple coat primer can improve the gloss of the Statguard® Conductive Epoxy. Test patch(s) are a great way to demonstrate primer thickness options to gain the desired gloss.

Adhesion Testing

Test patch areas should be tested for adhesion performance of the coating before applying coating to the entire floor. A licensed contractor is recommended to perform proper moisture testing and adhesion testing. To best ensure consistent results, the test should be done at various locations. Allow newly applied coating to dry a minimum of 48 hours before proceeding with the test. At humidity levels over 55% RH, allow 72 hours of drying time before testing.

It is highly recommended that you do some bonding tests with Statguard® Conductive Epoxy, and primer if required, on your prepared floor in a small area of the flooring, let it sit 72 hours and check bond to see if it is good and no moisture or any other problems are present.

Use a razor to cut a cross or a few perpendicular lines over a 3" by 3" (75 mm by 75 mm) area on several spots of the thoroughly dried area. Use a piece of masking tape to cover the marked area. Make sure the tape is thoroughly adhered to the test area. Pull the tape off the surface and examine the amount of coating which has peeled off during the test. If any significant portion is transferred to the tape, better surface preparation (acid etching, cleaning or sanding) should be done on the substrate to enhance the adhesion.

Mixing

Statguard® Conductive Epoxy is a two-component product supplied in 4 gallon kits which contain the proper ratio of ingredients. The entire contents of each container must be mixed together. Mix Part A (1 gallon) to Part B (3 gallon). Power mix the base portion first to obtain a smooth, homogeneous condition. After mixing base portion B, add the converter slowly with continued agitation. After the converter add is complete, continue to mix slowly. Use immediately after mixing. Mixed material is usable for 30 minutes after mixing. If it thickens, do not add thinner, but discard and mix fresh material.

Thinning

NOT RECOMMENDED - CAUTION: Adding water will reduce conductivity of coating.

Spread Rate

Estimated Coverage Per Gallon = 200 sq ft. at an 8 mil (0.008" thick) wet application dries to a 4 mil coating. Apply at 200 sq. ft. per gallon (5-6m^2/L) depending on surface texture and porosity. Make allowance for any losses due to surface irregularities.

Application

Statguard® Conductive Epoxy should be applied using a 1/8" notched squeegee to spread the epoxy evenly on the surface and then back rolled in both directions with the 3/8" Nap roller for epoxy use. With a properly prepped sub floor only one 8 mil wet coating is needed. If thicker coating is applied the dry time will be longer.

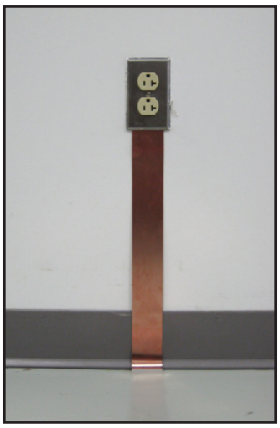
If a higher gloss is required and reducing the floor texture with a primer is not an option then a second coat of Statguard® conductive epoxy can be applied 24 hours after the 1st coat has dried. The 2nd coat should be applied by pouring mixed epoxy into a paint roller tray and rolling the epoxy on the floor in both directions with a 3/8" Nap roller for epoxy use. Note 30 minute life on mixed epoxy. Note that each gallon should cover 200 sqft.

Grounding

Conventional grounding practices like connecting coated surfaces to equipment or earth ground is recommended for meeting ANSI/ESD S20.20, EN 61340-5-1 and ISO 9000 recommendations for verifying grounds. However the following is also true of conductive epoxy flooring "Floor finishes … 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." [Per ESD Handbook ESD TR20.20 section 5.3.4.2]

Four examples on how to achieve connection to the epoxy surface are:

1. Install a Statguard® ESD Floor Ground Strip per 1,000 square feet throughout the installation.



2. Bring epoxy coating in contact with a building ground rod
3. Install a grounded lag bolt to the floor so the bolt comes in contact with the epoxy when screwed in place
4. Bolt a grounded metal plate to the epoxy surface.

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Clean Up

Statguard® Conductive Epoxy is best cleaned using water. Do not use any wet maintenance until 7 days after installation.

Drying

It is recommended that Statguard® Conductive Epoxy be allowed to dry for 12-24 hours at a temperature in excess of 55°F (13°C) and under 90°F (32°C) with 50% RH. Depending on the condition, it will take 3-7 days for a complete cure and hardening of the coating.

Cleaning and Maintenance

Dry Maintenance

Use sweeper, vacuum, or broom to remove dirt. Allow the full 7 days for a full cure before using a damp mop or any wet maintenance to clean the coated area. Do not use abrasive cleaners, solvents or scrubbing machines with coarse pads to clean the floor. A scrubbing machine can be used with a non-abrasive pad.

Wet Maintenance

Equipment needed:

- Statguard Stripper diluted 3:1
- Steel stiff bristle
- Plastic stiff bristle
- Low speed buffing machine
- 100-300 rpm
- Mop and bucket
- Wet dry vacuum

1. Mix Statguard® stripper and mop onto floor are to be cleaned, let sit for 5-8 minutes to help lift dirt off the surface.
2. Use Steel stiff bristle with low RPM buffer to help left and remove dirt from the epoxy surface.
3. Using a Wet dry Vacuum or mop, remove the loose dirt and used stripper from the floor.
4. Rinse the floor to remove any stripper residue left on the floor.
5. Once floor is dry – use plastic stiff bristle and low RPM buffer to go over the clean area to restore the gloss on the epoxy.

Optional Finish / Sealer

Statguard® Conductive Epoxy can be over-coated or sealed with Statguard® Dissipative Floor Finish to increase durability, enhance shine, improve ease of maintenance, and seal out dirt and debris. It is a polymer base floor finish/ sealer that can be used as a top coat on the Statguard® Conductive Epoxy Coating. Surface resistance will then be in the 1×10^6 to $< 1 \times 10^9$ ohm range. Two coats are recommended. Three coats will improve electrical properties, durability and reduce frequency of maintenance. Ask for Technical Bulletin TB-7042 for more information on Statguard® Dissipative Floor Finish.

Physical Properties

Type	Water based conductive 2 part Epoxy
Color	Light Grey
Pot Life	30 minutes
Vehicle Type	Waterborne Epoxy
Pigment Type	Lead free, inorganic pigment, tin antimony oxide, TiO2
Viscosity @ 25°C	Part B pigment side: 2100-2600 cps; 75-80 KU Part A clear resin side: 600-1000 cps; 75-80 KU Mix Ratio 3:1 by volume B:A 2500-3000 cps; 83-88 KU
Flammability	Non-flammable
Flash Point	>203°F
Solids	On mixed basis by Volume 50% By weight 63%
Coating Density	On mix basis 10.75 lbs per gallon
Gloss	Varying on application type and thickness, 15 to 35 CV's on a 60° angle
Temperature Range	Wet: 50°F - 110°F (10°C - 43°C) Dry: 33°F - 303°F (1°C - 149°C)
Abrasion Resistance	ASTM D4060 0.07 g (Tabor CS 17 1000 cycles with 1000g load)
Impact	ASTM D2794 160 lbs direct with no effect
Flexibility	ASTM D522 Passes 0.5" mandrel bend test
MEK Rub	ASTM D5402 100 MEK double rub did not touch the film

Electrical Properties

Rtt	1 x 10^4 to < 1 x 10^7 ohms per ANSI/ESD S7.1 or IEC 61340-4-1
Rtg	1 x 10^4 to < 1 x 10^7 ohms per ANSI/ESD S7.1 or IEC 61340-4-1

Test the surface resistance point to point (Rtt or Rp-p), and resistance-to-ground (Rtg or Rg) properties of coated area per ANSI/ESD S7.1 or Compliance Verification ESD TR53 at initial installation and quarterly. For quick and easy verification of the coating, we recommend using a Desco Industries Surface Resistance Test Meter Kit.

WARNING! IRRITANT! HARMFUL IF SWALLOWED. MAY CAUSE EYE, NOSE AND THROAT IRRITATION. AVOID CONTACT WITH SKIN AND EYES AND AVOID BREATHING OF VAPORS AND SPRAY MIST. WEAR EYE PROTECTION AND PROTECTIVE CLOTHING.

USE WITH ADEQUATE VENTILATION.

To avoid breathing vapors and spray mist, open windows and doors or use other means to ensure fresh air entry during application and drying. If you experience eye watering, headaches or dizziness, increase fresh air and use a properly fitted respirator (NIOSH approved for organic vapor with P Series particulate prefilter). Obtain professional advice before using. A dust mask does not provide protection against vapors. Avoid contact with eyes and skin. Wash thoroughly after handling. Close container after each use. FIRST AID: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If swallowed, get medical attention immediately.

CAUTION: KEEP OUT OF REACH OF CHILDREN. DO NOT TAKE INTERNALLY.

RoHS, REACH, and Conflict Minerals Statement
See the Desco Industries RoHS, REACH, and Conflict Minerals Statement:
http://www.descoindustries.com/ROHS.aspx

Desco Industries Limited Warranty
See the Desco Industries Limited Warranty:
http://www.descoindustries.com/Warranty.aspx

Statguard® Conductive Epoxy is available from these Desco Industries brands:

STATGUARD FLOORING

for service and support in North America

4 Gallons	46057

CHARLESWATER

for service and support in United Kingdom

15 Litres	71010

Vermason

for service and support in United Kingdom

15 Litres	210225

DESCO ASIA

for service and support in Asia

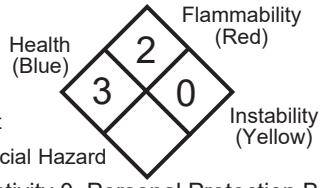
15 Liters	10400

Safety Data Sheet
May be used to comply with ANSI Z400.1-2004, 29 CFR 1910.1200, Regulation (EC) No 1272/2008 (CLP Regulation) and GHS. Standards must be consulted for specific requirements.

Revision Date: 2017-04-10

NFPA Designation 704

Degree of Hazard
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant



HMIS RATING: Health 3, Flammability 2, Reactivity 0, Personal Protection B

SECTION 1 — IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product Name:	Statguard® Conductive Epoxy, Part A
EC No.:	None
REACH Registration No.:	None
CAS No.:	None

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use:	Floor Finish Stripper

1.3 Details of the supplier of the safety data sheet

Manufacturer:	Desco Industries, Inc. One Colgate Way. Canton, MA 02021 781-821-8370
Email Address:	Service@DescoIndustries.com

1.4 Emergency telephone number

Emergency Number:	781-821-8370

SECTION 2 — HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Skin corrosion/irritation	Category 2
Skin sensitisation	Category 1
Eye irritation	Category 2

2.2 Label elements

Symbol:	Exclamation Mark
Signal word:	Warning
Hazard statements:	(H315): Cause skin irritation. (H317): May cause an allergic skin reaction. (H319): Cause serious eye irritation.
Precautionary statements:	(P261): Avoid breathing dust/fume/gas/mist/vapors/spray. (P264): Wash hands thoroughly after handling. (P272): Contaminated work clothing should not be allowed out of the workplace. (P280): Wear protective gloves/ protective clothing /eye protection/face protection. (P302 + P352 + P312): IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell. (P305+351+338): IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P332 + P313): If skin irritation or rash occurs: Get medical advice/ attention. (P337+313): If eye irritation persists: Get medical advice/attention. (P362 + P364): Take off contaminated clothing and wash it before reuse. (P501):Dispose of contents/container in compliance with all Federal, State/ Provincial and local laws and regulations.

2.3 Other hazards

N/A

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Hazardous Ingredients	CAS No.	Weight %
Bisphenol-F-epichlorhydrine; epoxy resins	9003-36-5	25 - 50 %
Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	25068-38-6	25 - 50 %
Oxirane, mono[(C12-14-alkyloxy) methyl] derivs	68609-97-2	10 - 25 %

SECTION 4 — FIRST AID MEASURES

4.1 Description of first aid measures

General information	Immediately remove any clothing soiled by the product.
Eye Contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists: Get medical advice/attention.
Skin Contact	Immediately wash with water and soap and rinse thoroughly.
Ingestion	If symptoms persist consult doctor. Do not induce vomiting.
Inhalation	Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.

4.2 Most important symptoms and effects, both acute and delayed

N/A

4.3 Indication of any immediate medical attention and special treatment needed

N/A

SECTION 5 — FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	Use fire fighting measures that suit the environment.
Unsuitable Extinguishing Methods	N/A

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

No special measures required.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Not required.

6.2 Environmental precautions

Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and materials for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

PAC-1		
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (numbw	90 mg/m^3
PAC-2		
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	990 mg/m^3
PAC-3		
25068-38-6	Reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)	5,900 mg/m^3

SECTION 7 — HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

7.2 Conditions for safe storage, including any incompatibilities

Keep receptable tightly sealed.

7.3 Specific end use(s)

N/A

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

8.2 Exposure controls

Individual protection measures

Protective Gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests, no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection

Use tightly sealed goggles.

Breathing equipment

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
Use suitable respiratory protective device in case of insufficient ventilation.

General protective and Hygienic Practices

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Liquid
Color:	Clear
Odor:	Characteristic
Odor Threshold:	N/A
pH:	N/A
Melting Point:	Not undetermined
Boiling Point:	5 °C (41 °F)
Flash Point:	121 °C (250 °F)
Ignition temperature	300 °C (572 °F)
Evaporation rate:	Slower than (n-Butyl Acetate)
Flammability:	N/A
Upper flammability or explosive limits:	N/A
Lower flammability or explosive limits:	N/A
Vapor Pressure @ 20°C (68°F):	0.1 hPa
Vapor Density (air=1):	Heavier than air
Relative Density:	N/A
Density @ 20°C (68°F):	1.09 g/cm³ (9.096 lbs/gal)
Specific Gravity (H_2O = 1) :	N/A
Solubility:	Fully miscible.
Partition coefficient:	N/A
Auto-ignition temperature:	Product is not selfigniting.
Decomposition temperature:	N/A
Dynamic viscosity:	N/A
Kinematic viscosity:	N/A
Explosive properties:	Product does not present an explosion hazard
Oxidizing properties:	N/A
VOC Content:	N/A
Solids Content:	N/A

9.2 Other information

No further relevant information available.

SECTION 10 — STABILITY AND REACTIVITY

10.1 Reactivity

No further relevant information available.

10.2 Chemical stability

No further relevant information available.

10.3 Possibility of hazardous reactions

No dangerous reactions known.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

No decomposition if used according to specifications.

SECTION 11 — TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Primary irritant effect:

on the skin: Irritant to skin and mucous membranes.

on the eye: Irritating effect.

Sensitisation: Sensitization possible through skin contact.

Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)	None of the ingredients is listed.
NTP (National Toxicology Program)	None of the ingredients is listed.
OSHA-Ca (Occupational Safety & Health Administration)	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

SECTION 12 — ECOLOGICAL INFORMATION

12.1 Toxicity

No further relevant information available.

12.2 Persistence and degradability

No further relevant information available.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Results of PBT and vPvB assessment

No further relevant information available.

12.6 Other adverse effects

No further relevant information available.

12.7 Additional Information

Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

SECTION 13 — DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

13.2 Additional information N/A

SECTION 14 — TRANSPORT INFORMATION

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

14.1 UN Number UN3082

14.2 UN proper shipping name

DOT	Environmentally hazardous substances, liquid, n.o.s.
IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction pr oduct : bi sphenol -A-(epichlorhydrin) epoxy resin (number average molecular weight ≤ 700)), MARINE POLLUTANT
IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

14.3 Transport hazard class(es)

DOT, IMDG, IATA

Class	9 Miscellaneous dangerous substances and articles
Label	9

14.4 Packing group

DOT, IMDG, IATA	III

14.5 Environmental hazards

Marine pollutant	Yes
	Symbol (fish and tree)
Special marking (IATA)	Symbol (fish and tree)

14.6 Special precautions for user

Warning: Miscellaneous dangerous substances and articles

EMS Number	F-A, S-F
Stowage Category	A

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

N/A

Transport/Additional information

DOT Remarks	Special marking with the symbol (fish and tree)
UN "Model Regulation"	UN 3 0 8 2 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S., 9, III

SECTION 15 — REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

None of the ingredients is listed.

SECTION 16 — OTHER INFORMATION

HMIS RATING	Health: 3, Flammability: 2, Reactivity: 0, Personal Protection B
NFPA RATING	Special Hazard: N/A, Health: 3, Flammability: 2, Instability: 0
SDS Updated	**2017-04-10**

Disclaimer

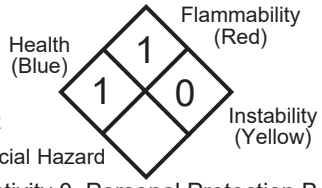
OTHER INFORMATION: This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process. Such information is to the best of the company's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee of any kind, express or implied, is made as to its accuracy, reliability or completeness and we assume no responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use.

Safety Data Sheet
May be used to comply with ANSI Z400.1-2004, 29 CFR 1910.1200, Regulation (EC) No 1272/2008 (CLP Regulation) and GHS. Standards must be consulted for specific requirements.

Revision Date: 2017-04-10

NFPA Designation 704

Degree of Hazard
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant



HMIS RATING: Health 1, Flammability 1, Reactivity 0, Personal Protection B

SECTION 1 — IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifiers

Product Name:	Statguard® Conductive Epoxy, Part B
EC No.:	None
REACH Registration No.:	None
CAS No.:	None

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified use:	Floor Finish Stripper

1.3 Details of the supplier of the safety data sheet

Manufacturer:	Desco Industries, Inc. One Colgate Way. Canton, MA 02021 781-821-8370
Email Address:	Service@DescoIndustries.com

1.4 Emergency telephone number

Emergency Number:	781-821-8370

SECTION 2 — HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Serious eye damage	Category 1
Carcinogenicity	Category 1A
Specific target organ toxicity (Repeated exposure)	Category 2

2.2 Label elements

Symbol:	Corrosion. Health hazard.
Signal word:	Danger
Hazard statements:	(H318): Causes serious eye damage. (H350): May cause cancer. (H373): May cause damage to organs through prolonged or repeated exposure.
Precautionary statements:	(P201): Obtain special instructions before use. (P202): Do not handle until all safety precautions have been read and understood. (P260): Do not breathe dust/fume/gas/mist/vapours/spray. (P280): Wear protective gloves/ protective clothing /eye protection/face protection. (P305+351+338+310): 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. (P308+313): IF exposed or concerned: Get medical advice/attention. (P314): Get medical advice/attention if you feel unwell. (P405): Store locked up. (P501):Dispose of contents/container in compliance with local/regional/national/international regulations.

2.3 Other hazards

N/A

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Hazardous Ingredients	CAS No.	Weight %
Polymer, reaction product of BADGE/ glycidylether with TEPA	155240-10-1	10 - 25 %
Mica - Potassium Aluminum Silicate	12001-26-2	2.5 - 10 %
TIN ANTIMONY OXIDE	68187-54-2	2.5 - 10 %
Quartz (SiO2)	14808-60-7	2.5 - 10 %
Titanium dioxide	13463-67-7	2.5 - 10 %
2-butoxyethanol	111-76-2	2.5 - 10 %
Propylene glycol	57-55-6	2.5 - 10 %
butan-1-ol	71-36-3	1 - 2.5 %
Paraffins (petroleum), normal C>10	64771-71-7	0.1 - 2.5 %

SECTION 4 — FIRST AID MEASURES

4.1 Description of first aid measures

General information	Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Eye Contact	Rinse opened eye for several minutes under running water. Then consult a doctor.
Skin Contact	Generally the product does not irritate the skin.
Ingestion	If symptoms persist consult doctor. Do not induce vomiting.
Inhalation	Supply fresh air; consult doctor in case of complaints.

4.2 Most important symptoms and effects, both acute and delayed

N/A

4.3 Indication of any immediate medical attention and special treatment needed

N/A

SECTION 5 — FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable Extinguishing Media	CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Unsuitable Extinguishing Methods	N/A

5.2 Special hazards arising from the substance or mixture

No further relevant information available.

5.3 Advice for firefighters

No special measures required.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions

Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and materials for containment and cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

PAC-1		
25068-38-6	Mica - Potassium Aluminum Silicate	9 mg/m^3
14808-60-7	Quartz (SiO2)	0.075 mg/m^3
13463-67-7	Titanium dioxide	30 mg/m^3
111-76-2	2-butoxyethanol	60 ppm
57-55-6	Propylene glycol	30 mg/m^3
71-36-3	Butan-1-ol	60 ppm
25322-69-4	Poly(propylene glycol)	30 mg/m^3
34590-94-8	(2-methoxymethylethoxy)propanol	150 ppm
PAC-2		
25068-38-6	Mica - Potassium Aluminum Silicate	99 mg/m^3
14808-60-7	Quartz (SiO2)	33 mg/m^3
13463-67-7	Titanium dioxide	330 mg/m^3
111-76-2	2-butoxyethanol	120 ppm
57-55-6	Propylene glycol	1,300 mg/m^3
71-36-3	Butan-1-ol	800 ppm
25322-69-4	Poly(propylene glycol)	330 mg/m^3
34590-94-8	(2-methoxymethylethoxy)propanol	1,700* ppm
PAC-3		
25068-38-6	Mica - Potassium Aluminum Silicate	590 mg/m^3
14808-60-7	Quartz (SiO2)	200 mg/m^3
13463-67-7	Titanium dioxide	2,000 mg/m^3
111-76-2	2-butoxyethanol	700 ppm
57-55-6	Propylene glycol	7,900 mg/m^3
71-36-3	Butan-1-ol	8,000** ppm
25322-69-4	Poly(propylene glycol)	2,000 mg/m^3
34590-94-8	(2-methoxymethylethoxy)propanol	9,900** ppm

SECTION 7 — HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

7.2 Conditions for safe storage, including any incompatibilities

Keep receptable tightly sealed.

7.3 Specific end use(s) N/A

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Hazardous Ingredients	CAS No.	TLV (long term value)	PEL (long term value)	REL (long term value)
Mica - Potassium Aluminum Silicate	12001-26-2	3* mg/m³	20 mppcf ppm <1% crystalline silica	3** mg/m³
		*as respirable fraction **respirable dust; containing <1% quartz		
Quartz (SiO2)	14808-60-7	0.025* mg/m³	See Quartz listing	0.05** mg/m³
		*as respirable fraction **respirable dust; See Pocket Guide App. A		
2-butoxyethanol	111-76-2	97 mg/m³, 20 ppm BEI	240 mg/m³, 50 ppm Skin	24 mg/m³, 5 ppm Skin
Butan-1-ol	71-36-3	61 mg/m³, 20 ppm	300 mg/m³, 100 ppm	**Ceiling limit value:** 150 mg/m³, 50 ppm Skin

Propylene glycol	57-55-6	**WEEL**	Long-term value: 10 mg/m³

Ingredients with biological limit values

2-butoxyethanol	111-76-2	**BEI**	200 mg/g creatinine Medium: urine Time: end of shift Parameter: Butoxyacetic acid with hydrolysis

8.2 Exposure controls

Individual protection measures

Protective Gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests, no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye protection

Use tightly sealed goggles.

Breathing equipment

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

General protective and Hygienic Practices

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance:	Liquid
Color:	Light grey
Odor:	Characteristic
Odor Threshold:	N/A
pH:	9.0 - 10.0
Melting Point:	Not undetermined
Boiling Point:	100 °C (212 °F)
Flash Point:	95 °C (203 °F)
Ignition temperature	N/A
Evaporation rate:	Slower than (n-Butyl Acetate)
Flammability:	N/A
Upper flammability or explosive limits:	N/A
Lower flammability or explosive limits:	N/A
Vapor Pressure @ 20°C (68°F):	23 hPa (17 mm Hg)
Vapor Density (air=1):	Heavier than air
Relative Density:	N/A
Density @ 20°C (68°F):	1.261 g/cm³ (10.523 lbs/gal)
Specific Gravity (H_2O = 1) :	N/A
Solubility:	Fully miscible.
Partition coefficient:	N/A
Auto-ignition temperature:	Product is not selfigniting.
Decomposition temperature:	N/A
Dynamic viscosity:	N/A
Kinematic viscosity:	65 - 67 KU (Krebs Unit)
Explosive properties:	Product does not present an explosion hazard
Oxidizing properties:	N/A
VOC Content:	145.2 g/l / 1.21 lb/gl
Solids Content:	48 - 52 %

9.2 Other information

ESD ≤ 1.0 x 10E5

SECTION 10 — STABILITY AND REACTIVITY

10.1 Reactivity

No further relevant information available.

10.2 Chemical stability

No further relevant information available.

10.3 Possibility of hazardous reactions

No dangerous reactions known.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

No decomposition if used according to specifications.

SECTION 11 — TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

Primary irritant effect:

on the skin: No irritant effect.

on the eye: Strong irritant with the danger of severe eye injury.

Sensitisation: No sensitizing effects known.

Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)	14808-60-7	Quartz (SiO2)	1
	13463-67-7	Titanium dioxide	2B
	111-76-2	2-butoxyethanol	3
NTP (National Toxicology Program)	14808-60-7	Quartz (SiO2)	K
OSHA-Ca (Occupational Safety & Health Administration)	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.		

SECTION 12 — ECOLOGICAL INFORMATION

12.1 Toxicity
No further relevant information available.

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

12.5 Results of PBT and vPvB assessment
No further relevant information available.

12.6 Other adverse effects
No further relevant information available.

12.7 Additional Information
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.

SECTION 13 — DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.

13.2 Additional information
Recommended cleansing agent: Water, if necessary with cleansing agents.

SECTION 14 — TRANSPORT INFORMATION
This product is not classified for transport under ADR/IMDG regulations.

14.1 UN Number N/A

14.2 UN proper shipping name N/A

14.3 Transport hazard class(es) N/A

14.4 Packing group N/A

14.5 Environmental hazards N/A

14.6 Special precautions for user N/A

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code N/A

SECTION 15 — REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Title III Inventory of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR37.

Section 355 (Extremely hazardous substances)	None of the ingredients is listed.	
Section 313 (Specific toxic chemical listings)	111-76-2	2-butoxyethanol
	714-36-3	Butan-1-ol

All the listed ingredients are subjected to the reporting requirements of the TSCA (Toxic Substances Control Act).

Proposition 65

	CAS No.	**Ingredients**
Chemicals known to cause cancer	14808-60-1	Quartz (SiO2)
	13463-67-7	Titanium dioxide
Chemicals known to cause reproductive toxicity for females/males and cause developmental toxicity	None of the ingredients is listed.	

Carcinogenic Categories

	CAS No.	**Ingredients**	
EPA (Environmental Protection Agency)	111-76-2	2-butoxyethanol	NL
	71-36-3	Butan-1-ol	D
TLV (Threshold Limit Value established by ACGIH)	14808-60-7	Quartz (SiO2)	A2
	111-76-2	2-butoxyethanol	A3
	13463-67-7	Titanium dioxide	A4
NIOSH-Ca (National Institute for Occupational Safety and Health)	14808-60-1	Quartz (SiO2)	
	13463-67-7	Titanium dioxide	

SECTION 16 — OTHER INFORMATION

HMIS RATING	Health: 1, Flammability: 1, Reactivity: 0, Personal Protection B
NFPA RATING	Special Hazard: N/A, Health: 1, Flammability: 1, Instability: 0
SDS Updated	**2017-04-10**

Disclaimer

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