Statguard® Conductive Epoxy 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.*

DESCO INDUSTRIES INC. • 3651 Walnut Avenue, Chino, CA 91710 • (909) 627-8178 • Web Site: DescoIndustries.com

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 prepped concrete 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.

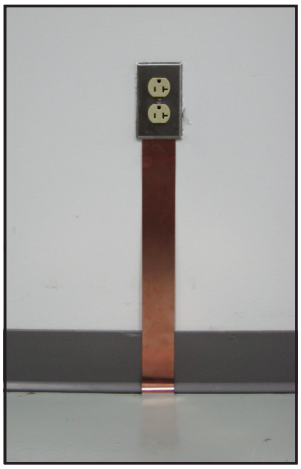
If a higher gloss is required and reducing the floor texture with a primer is not an option then a second coat of Statguard® conductive epoxy can be applied 24 hours after the 1st coat has dried. The 2nd coat should be applied by pouring mixed epoxy into a paint roller tray and rolling the epoxy on the 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.

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 should be used in conjunction with Statguard® Conductive Epoxy to ground personnel.

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 x 10^6 to < 1 x 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 base 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.

Limited Warranty, Warranty Exclusions, Limit of Liability and RMA Request Instructions

See Desco Industries Warranty -
DescoIndustries.com/Warranty.aspx

RoHS 2, REACH, and Conflict Minerals Statement
None of the RoHS 2 restricted materials or REACH substances of very high concern as of 2014/12/17, or Conflict Minerals are intentionally added in manufacturing this product. Ref: European Union Directive 2011/65/EU and Regulation (EC) No. 1907/2006/CE. See Desco Limited Warranty at DescoIndustries.com

DESCO
for service and support in North America
4 Gallon **10400**

STATGUARD FLOORING
for service and support in North America
4 Gallon **46057**

CHARLESWATER
for service and support in the United Kingdom
15 Litre **71010**

Vermason
for service and support in the United Kingdom
15 Litre **210225**

DESCO ASIA
for service and support in the Asia
15 Litre **10400**

DESCO JAPAN
for service and support in the Japan
15 Litre **10400**

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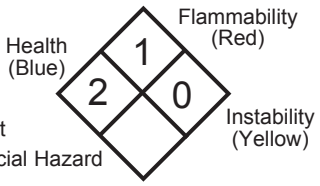
Safety Data Sheet
May be used to comply with ANSI Z400.1-2004, 29 CFR 1910.1200, Regulation (EC) No 1272/2008 (CLP Regulation), and GHS. Standard must be consulted for specific requirements.

NFPA Designation 704

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



HMIS RATING: Health: 2 Reactivity: 0 Flammability: 1 Personal Protection: X

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name/Identity: STATGUARD® CONDUCTIVE EPOXY, PART A

Chemical Name: Statguard® Conductive Epoxy
Manufacturer: Desco Industries, Inc
Address: One Colgate Way
Canton, MA 02021
Telephone: 781-821-8370
Emergency Number: 781-821-8370

SECTION 2 — HAZARDS IDENTIFICATION

Eye Irritation	Category 4
Skin corrosion/Irritation	Category 2
Skin Sensitization	Category 1
Hazardous to the Aquatic Environment	Category 2

Labelling:

Symbol: Exclamation Point, Aquatic Toxicity

Signal word: Warning.

Hazard statement:
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
Toxic to aquatic life with long lasting effects.

Precautionary statements:

Avoid breathing dust/fume/gas/mist/vapors/spray.
Wear protective gloves.
Wear eye protection / face protection.
Avoid release to the environment.
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Specific treatment (see on this label).
If on skin: Wash with plenty of water.
Wash contaminated clothing before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Collect spillage.
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients:	CAS No.	Weight (%)
Phenol, polymer with formaldehyde, glycidyl ether	28064-14-4	30 - 100 %
bisphenol-A-(epichlorhydrin) epoxy resin	25068-38-6	5 - 25 %
Aliphatic epoxide (Confidential)		5 - 25 %

SECTION 4 — FIRST AID MEASURES

Emergency and First Aid Procedures:

Eye Contact:	Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Skin Contact:	Immediately wash with water and soap and rinse thoroughly.
Ingestion:	If symptoms persist consult doctor.
Inhalation:	Supply fresh air and to be sure call for a doctor. In case of unconsciousness place patient stably in side position for transportation.

SECTION 5 — FIREFIGHTING MEASURES

Proper Extinguishing Media:	Use fire fighting measures that suit the environment.
Unsuitable Extinguishing Methods:	N/A.
Protective Equipment & Precautions:	Wearing of appropriate protective equipment.
Special Fire Fighting Procedures:	N/A.
Unusual Fire and Explosion Hazards:	N/A.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Environmental Precautions:	Inform respective authorities in case of seepage into water course or sewage system. Do not allow to enter sewers/ surface or ground water.
Cleaning Procedures:	Pick up mechanically.
Other Precautions:	Use standard safety practices when using this product.

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:	Store in cool dry places. Storage Temperature: 50°F - 110°F (10°C - 43°C). Keep from freezing

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Personal protective equipment (PPE)

Respiratory Protection (Specify Type):	N/A.
Hand Protection:	Protective gloves. The glove material has to be impermeable and resistant to the product/the substance/the preparation. 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 to 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:	Tightly sealed goggles.
Work/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

Form:	Liquid.
Color:	Clear.
Odor:	Characteristic.
Odour threshold:	N/A.
pH-value:	N/A.
Melting point/Melting range:	N/A.
Boiling point/Boiling range:	N/A.
Flash point:	121 °C (250 °F)
Flammability (solid, gaseous):	N/A.
Decomposition temperature:	N/A.
Auto igniting:	Product is not self igniting.
Danger of explosion:	Product does not present an explosion hazard.
Vapor pressure:	N/A.
Density at 20 °C (68 °F):	1.092 g/cm³ (9.113 lbs/gal)
Relative density:	N/A.
Vapor density:	N/A.
Evaporation rate:	N/A.
Solubility in Water:	Insoluble.
Partition coefficient (n-octanol/water):	N/A.
Organic solvents:	0.0 %
Solids content:	100.0 %

SECTION 10 — STABILITY AND REACTIVITY

Conditions to be avoided:	No decomposition if used according to specifications.
Possibility of hazardous reactions:	N/A.
Conditions to avoid:	N/A.
Incompatible materials:	N/A.
Hazardous decomposition products:	N/A.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute Effects:

Eyes:	Irritating effect.
Skin:	Irritant to skin and mucous membranes.
Sensitization:	Sensitization possible through skin contact.

SECTION 12 — ECOLOGICAL INFORMATION

Aquatic toxicity:	N/A.
Persistence and Degradability:	N/A.
Bioaccumulative potential:	N/A.
Mobility in soil:	N/A.

Ecotoxical effects:	Harmful to fish
General notes:	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. Harmful to aquatic organisms

SECTION 13 — DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose in accordance with local, state, and federal regulations.

SECTION 14 — TRANSPORT INFORMATION

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

SECTION 15 — REGULATORY INFORMATION

TSCA (Toxic Substances Control Act):

28064-14-4 Phenol, polymer with formaldehyde, glycidyl ether
25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin

SECTION 16 — OTHER INFORMATION

HMIS RATING:	Health 1, Flammability 0, Physical Hazard 0, Personal Protection B
NFPA RATING:	Special Hazard: N/A, Health 1, Flammability 0, Instability: 0
SDS Updated:	**2015-04-28**

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. Standard must be consulted for specific requirements.

NFPA Designation 704

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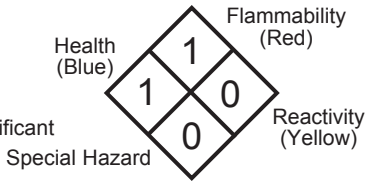

HMIS RATING: Health: 1 Reactivity: 0 Flammability: 1 Personal Protection: B Goggles, Gloves

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name/Identity: STATGUARD® CONDUCTIVE EPOXY, PART B
Chemical Name: Statguard® Conductive Epoxy

Manufacturer: Desco Industries, Inc
Address: One Colgate Way
Canton, MA 02021
Telephone: 781-821-8370
Emergency Number: 781-821-8370

SECTION 2 — HAZARDS IDENTIFICATION

Serious Eye Damage / Eye Irritation	Category 1A
Carcinogenicity	Category 1A
Specific Target Organ Toxicity (Repeated Exposure)	Category 2

Labelling:

Symbol: Corrosive, Health Hazard.

Signal word: Danger.

Hazard statement:
Causes serious eye damage.
May cause cancer.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements:

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wear eye protection / face protection.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
IF exposed or concerned: Get medical advice/attention.
Get medical advice/attention if you feel unwell.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients:	CAS No.	Weight %
Polymer, reaction product of BADGE/glycidylether with TEPA	155240-10-1	5 - 25 %
Mica	12001-26-2	1 - 10 %
TIN ANTIMONY OXIDE	68187-54-2	1 - 10 %
Titanium Dioxide	13463-67-7	1 - 10 %
Quartz (SiO2)	14808-60-7	1 - 10 %
2-Butoxyethanol	111-76-2	1 - 10 %
Propane-1,2-diol	57-55-6	1 - 10 %
Paraffins (petroleum), normal C>10	64771-71-7	1 - 5 %
butan-1-ol	71-36-3	1 - 5 %

SECTION 4 — FIRST AID MEASURES

Inhalation:	Supply fresh air; consult doctor in case of complaints.
Skin Contact:	Generally the product does not irritate the skin.
Eye Contact:	Rinse opened eye for several minutes under running water.
Ingestion:	If symptoms persist consult doctor.

SECTION 5 — FIREFIGHTING MEASURES

Suitable extinguishing agents:	CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Unsuitable Extinguishing Methods:	N/A.
Protective Equipment & Precautions:	Wearing of appropriate protective equipment.
Special Fire Fighting Procedures:	N/A.
Unusual Fire and Explosion Hazards:	N/A.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal precautions:	N/A.
Environmental precautions:	Do not allow to enter sewers/surface or ground water.
Clean up:	Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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: 50°F - 110°F (10°C - 43°C). Keep from freezing

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure Limits

Hazardous Ingredients:	CAS No.	OSHA PEL	ACGIH TLV
Mica	12001-26-2	20 mppcf ppm	3* mg/m³
Quartz (SiO2)	14808-60-7		0.025* mg/m³
2-Butoxyethanol	111-76-2	240 mg/m³, 50 ppm	97 mg/m³, 20 ppm
Butan-1-ol	71-36-3	300 mg/m³, 100 ppm	61 mg/m³, 20 ppm

*as respirable fraction

Personal protective equipment

General Hygienic Measures: Wash hands before breaks and at the end of work.

Respiratory Protection: N/A.

Hand Protection: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. 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 to 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.

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Eye protection: Goggles recommended during refilling.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Light grey
Odor:	Amine-like
Odor threshold:	N/A.
pH-value:	N/A.
Melting point/Melting range:	N/A.
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	95 °C (203 °F)
Flammability (solid, gaseous):	N/A.
Decomposition temperature:	N/A.
Auto igniting:	Product is not self igniting.
Danger of explosion:	Product does not present an explosion hazard.
Vapor pressure at 20 °C (68 °F):	23 hPa (17 mm Hg)
Density at 20 °C (68 °F):	1.26 g/cm³ (10.515 lbs/gal)
Relative density:	N/A.
Vapour density:	Heavier than (Air)
Evaporation rate:	Slower than (n-Butyl Acetate)
Solubility in Water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol/water):	N/A.
VOC content:	137.0 g/l / 1.14 lb/gl

SECTION 10 — STABILITY AND REACTIVITY

Conditions to be avoided:	No decomposition if used according to specifications.
Possibility of hazardous reactions:	N/A.
Conditions to avoid:	N/A.
Incompatible materials:	N/A.
Hazardous decomposition products:	N/A.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute Toxicity

Carcinogenic Categories:

IARC (International Agency for Research on Cancer)

Chemical	Rating
2-butoxyethanol	3
titanium dioxide	2B
Quartz (Si02)	1

NTP (National Toxicology Program

Chemical	Rating
Quartz	K

SECTION 12 — ECOLOGICAL INFORMATION

Aquatic toxicity:	N/A.
Persistence and degradability:	N/A.
Bioaccumulative potential:	N/A.
Mobility in soil:	N/A.
General notes:	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.

SECTION 13 — DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose in accordance with local, state, and federal regulations.

SECTION 14 — TRANSPORT INFORMATION

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

SECTION 15 — REGULATORY INFORMATION

Section 313 (Specific toxic chemical listings):

111-76-2 2-butoxyethanol
71-36-3 butan-1-ol

TSCA (Toxic Substances Control Act):

68187-54-2 TIN ANTIMONY OXIDE
13463-67-7 titanium dioxide
14808-60-7 Quartz (SiO2)
111-76-2 2-butoxyethanol
57-55-6 propane-1,2-diol
64771-71-7 Paraffins (petroleum), normal C>10
71-36-3 butan-1-ol
34590-94-8 (2-methoxymethylethoxy)propanol
7732-18-5 water, distilled, conductivity or of similar purity

Proposition 65

Chemicals known to cause cancer:

13463-67-7 titanium dioxide
14808-60-7 Quartz (SiO2)

Carcinogenic categories

EPA (Environmental Protection Agency)

111-76-2 2-butoxyethanol NL
71-36-3 butan-1-ol D

NIOSH-Ca (National Institute for Occupational Safety and Health)

13463-67-7 titanium dioxide
14808-60-7 Quartz (SiO2)

SECTION 16 — OTHER INFORMATION

HMIS RATING:	Health 1, Flammability 1, Physical Hazard 0, Personal Protection X
NFPA RATING:	Special Hazard: N/A, Health 1, Flammability 1, Instability: 0
SDS Updated:	**2015-04-29**

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.