Statguard® Conductive Epoxy Instructions

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 Material 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. Statguard® offers a neutralizer item # 46022.

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 (46062) or Baril WBE500 (46063) 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 (46062) or WBE500 (46063) 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.

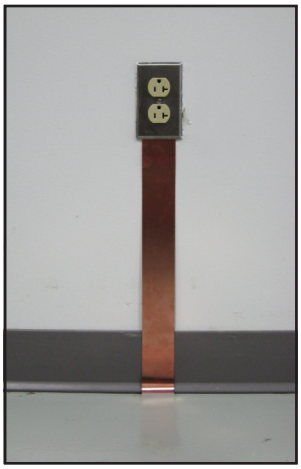
If a higher gloss is required and reducing the floor texture with a primer is not an option then a second coat of Statguard® conductive epoxy can be applied 24 hours after the 1st coat has dried. The 2nd coat should be applied by pouring mixed epoxy into a paint roller tray and rolling the epoxy on the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

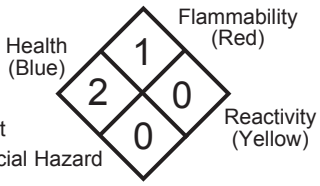
See Statguard Flooring's Warranty -
http://statguard.descoindustries.com/Warranty.aspx

DESCO INDUSTRIES INC. • 3651 Walnut Avenue, Chino, CA 91710 • (909) 627-8178 • Fax (909) 627-7449 • Web Site: DescoIndustries.com

Material Safety Data Sheet
May be used to comply with ANSI Z400.1-2004, 29 CFR 1910.1200, European 2001/58/EC, REACH 1907/2006/EC, 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: 0 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
Date Prepared:	2013-01-31

SECTION 2 — HAZARDS IDENTIFICATION

Routes of Entry

Eyes:	Causes irritation.
Skin:	May cause dermal irritation.
Ingestion:	May cause irritation.
Inhalation:	Spray mist may irritate respiratory tract.
Target Organs (Organs Effected):	None

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients:	*CAS No.*	*Weight (%)*
Bisphenol A/Epichlorhdrin Epoxy	25068-38-6	10 - 30%
Epoxy Phenol Novolac	28064-14-4	40 - 70%
Confidential Aliphatic Epoxide	Con-1	10 - 30%

*There are no items 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

Signs & Symptoms of Exposure: Temporary dizziness, headache, possibly nausea, dermatitis.

Emergency and First Aid Procedures:

Eye Contact:	Flush eyes with water for 15 minutes. Contact physician.
Skin Contact:	Wash skin with soap and water
Ingestion:	DO NOT induce vomiting. Contact a physician.
Inhalation:	Remove subject to fresh air. Contact a physician.

SECTION 5 — FIREFIGHTING MEASURES

Proper Extinguishing Media:	Foam, Dry Chemical, or Carbon Dioxide.
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:	Use self-contained breathing apparatus and stay upwind.
Unusual Fire and Explosion Hazards:	No unusual fire hazards.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wearing protective clothing, neoprene gloves, and goggles. Apply in well-ventilated areas.
Environmental Precautions:	Biodegradable.
Cleaning Procedures:	Absorb spill with inert material (e.g. sand or earth), then place in a chemical waste container. Observe all applicable local, state and federal waste managements regulations.
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

Hazardous Ingredients:	*CAS No.*	*TLV-value*	*OSHA-PEL*
Bisphenol A/Epichlorhdrin Epoxy	25068-38-6	2 PPM	5 PPM
Epoxy Phenol Novolac	28064-14-4	N/A	N/A
Confidential Aliphatic Epoxide	Con-1	N/A	N/A

Other Regulations:	None
Measures for Technical Control:	Preferences of technical measure to prevent or control contact with the product. Isolating process and personnel, mechanical ventilation (dilution and local exhaust) and the regulation of process conditions. In case of non-prevention or non-control, a proper protective wearing should be used.
Respiratory Protection *(Specify Type):*	Use NIOSH approved mist respirator where spray mist occurs.
Hand Protection:	Impervious/Neoprene Gloves
Eye Protection:	Safety glasses or Chemical Splash Goggles as defined in ANSI Z-87.1 or a similar standard.
Ventilation:	Use a local exhaust fan is the vapor concentration is above the LEL (lower explosive limit) and TLV (threshold limit value).
Work/Hygienic Practices:	Wash hands before eating, smoking or using washroom facilities.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Clear to Pale Yellow
Smell:	N/A type odor
pH:	7.0-8.0
Boiling Range at °C:	392°F (200°C)
Melting Point at °C:	N/A
Flash Point:	>250°F Tag Closed Cup
Flammability Limits: (vol.% in air)	N/A
Solubility in water:	0.0% Soluble
VOC per Method 24 of EPA:	0 grams/liter
Vapor Pressure (mmHg):	NE
Vapor Density (air=1):	Heavier than air
Density at 20°C:	9.10 lbs./gal
Specific Gravity (H20=1):	1.092
Flammability:	Classification according to EC-regulations “non-flammable”
Ignition Temperature:	N/A
Evaporation Rate:	Slower than n-butyl acetate

SECTION 10 — STABILITY AND REACTIVITY

Hazardous Decomposition/Byproducts:	Aldehydes, Carbon Dioxide, Carbon Monoxide
Incompatibility *(Materials to Avoid):*	Strong Oxidizing Agents
Stability:	Stable product at normal conditions
Conditions to Avoid:	Temperatures above 110°F (43°C) and below 50°F (10°C)
Hazardous Polymerization:	Will not occur.

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute toxicity:	None Known		
Special Effect:	None Known		
Carcinogenicity:	NTP	IARC Monographs	OSHA Regulated
	No	No	No

SECTION 12 — ECOLOGICAL INFORMATION

No environmental hazards have been reported or known.

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:	Absorb with inert material (e.g. sand or earth), then place in a chemical waste container. Observe all applicable local, state and federal waste managements regulations.
Waste Disposal Method:	In accordance with local, state, and federal regulations.
Hazardous Waste Number:	Non Hazardous.
Resource Conservation & Recovery Act (RCRA):	Not a hazardous waste RCRA (40 CFR 261)

SECTION 14 — TRANSPORT INFORMATION

Motor Freight Classification: Resin compounds N.O.I.
This product does not require classification for transport under ADR/IMDG regulations.

SECTION 15 — REGULATORY INFORMATION

Physical/Chemical Indication:	Non-flammable
Risk Phrase	(R36/37/38): Irritating to eyes, respiratory system, 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.
EU Classification: (67/548/EEC-88/379/EEC):	This product does not have to be classified according to the EU Regulations.
EINECS Status:	All components are included in the EINECS Inventories.
WHMIS:	This product has been classified in accordance with the hazard criteria of the controlled product regulations and the MSDS contains all the information required by the controlled.

TSCA:	All ingredients of this product are listed or are excluded from the listing on the U.S. Toxic Substance Control Act (TSCA) Chemical Substance inventory.
REACH:	This product does not require REACH registration.

SECTION 16 — OTHER INFORMATION

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

NFPA RATING: Special Hazard: 0 Health: 2 Flammability: 1 Reactivity: 0

Date of last revision: 2013-01-31

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 end 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

Material Safety Data Sheet
May be used to comply with ANSI Z400.1-2004, 29 CFR 1910.1200, European 2001/58/EC, REACH 1907/2006/EC, and GHS. Standard must be consulted for specific requirements.

NFPA Designation 704

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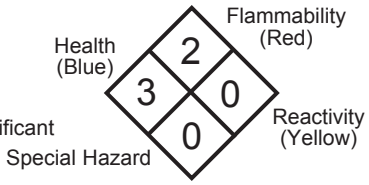

HMIS RATING: Health: 3 Reactivity: 0 Flammability: 1 Personal Protection: B Goggles, Gloves

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
Date Prepared:	2013-01-31

SECTION 2 — HAZARDS IDENTIFICATION

Routes of Entry

Eyes:	May cause discomfort by defatting action of solvents.
Skin:	May cause discomfort by defatting action of solvents.
Ingestion:	May cause mild irritation.
Inhalation:	Temporary dizziness, headache, possibly nausea. Symptoms will disappear when exposure ceases.
Target Organs (Organs Effected):	Blood, Brain, Central Nervous, Eyes, Kidneys, Liver, Respiratory, Skin

SECTION 3 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients:	CAS No.	Weight (%)
Propylene Glycol	57-55-6	1-5%
*# Butyl Alcohol:	71-36-3	1-5%
*# Butoxy Ethanol:	111-76-2	1-5%
Tetraethylenepentamine:	112-57-2	1-5%
Fuller's Earth	8031-18-3	1-5%
Mica (As dust):	12001-26-2	5-25%
Titanium Dioxide	13463-67-7	1-5%
Silica, Crystalline (AS QUARTZ DUST)	14808-60-7	5-25%
Tin Antimony Oxide:	68187-54-2	5-25%

* Indicates Item subject to reporting requirements of SARA 313,40 CFR 372.
# Indicates OSHA "SKIN DESIGNATION" exposure hazard (29 CFR Table Z-1-A). Materials listed for this product are on the TSCA inventory list.

SECTION 4 — FIRST AID MEASURES

Signs & Symptoms of Exposure: Temporary dizziness, headache, possibly nausea, dermatitis.

(Acute)
Emergency and First Aid Procedures:

Eye Contact:	Flush eyes with water for 15 minutes. Contact physician.
Skin Contact:	Wash skin with soap and water
Ingestion:	DO NOT induce vomiting. Contact a physician at once.
Inhalation:	Move subject to fresh air.

(Chronic)
Repeated contact with skin may cause dermatitis.

SECTION 5 — FIREFIGHTING MEASURES

Proper Extinguishing Media:	Foam, Dry Chemical, or Carbon Dioxide
Unsuitable Extinguishing Methods:	N/A
Protective Equipment & Precautions:	Wearing of appropriate protective equipment
Flash Point (Method Used):	201°F Tag Closed Cup
Flammable Limits:	LEL: 1.10% UEL: 12.50%
Special Fire Fighting Procedures:	Use of a self-contained breathing apparatus is recommended for firefighters. Water may be unsuitable as an extinguishing medium, but is helpful in keeping adjacent containers cool.
Unusual Fire and Explosion Hazards:	Keep away from heat, sparks, and open flames. Vapors can cause a flash fire. Vapors might also ignite explosively.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wearing protective clothing, butyl or viton rubber gloves, and goggles. Apply in ventilated areas.
Environmental Precautions:	Biodegradable.
Cleaning Procedures:	Remove sources of ignition and provide ventilation. Provide respiratory protection. Large spills may be scooped up with non-sparking tools. Small spills may be picked up with absorbent material. Place in closed container outdoors for disposal.

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
Precautions to be taken:	Store in a cool place away from sources of heat, sparks, or open flame. DO NOT BREATHE SPRAY MIST. SPRAY MIST IS FLAMMABLE.
Other Precautions:	Ground container when pouring. Avoid the use of plastic container to prevent static electricity buildup. Also limit free fall to a few inches to prevent static sparks. DO NOT, puncture, or weld on or near empty container.

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Hazardous Ingredients:	CAS No.	TLV-value	OSHA-PEL
Propylene Glycol	57-55-6		
*# Butyl Alcohol:	71-36-3	100 PPM	100 PPM
*# Butoxy Ethanol:	111-76-2	25 PPM	50 PPM
Tetraethylenepentamine:	112-57-2	NE	NE
Mica (As dust):	12001-26-2	3 mg/m^3	3 mg/m^3
Silica, Crystalline (AS QUARTZ DUST)	14808-60-7		
Tin Antimony Oxide:	68187-54-2	N/A	.5 mg/m^3

Other Regulations:	None
Measures for Technical Control:	Preferences of technical measure to prevent or control contact with the product. Isolating process and personnel, mechanical ventilation (dilution and local exhaust) and the regulation of process conditions. In case of non-prevention or non-control, a proper protective wearing should be used.
Respiratory Protection (Specify Type):	Wear MSHA/NIOSH-approved chemical cartridge type respirator in accordance with OSHA respirator protection requirements under 29 CFR 1910.134 if LEL or TLV is above recommended level.
Ventilation:	Use a local exhaust fan if the vapor concentration is above the LEL (lower explosive limit) and TLV (threshold limit value).
Hand Protection:	Butyl or Viton Rubber Gloves
Eye Protection:	Goggles or side shield spectacles.
Other Protective Equipment:	A safety shower and eye bath should be made readily available.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Light Gray
Smell:	Mild type odor
pH:	7.0-8.0
Boiling Range at °C:	212°C - 450°F
Melting Point at °C:	N/A
Flash Point:	201°F Tag Closed Cup
Flammability Limits: (vol.% in air)	LEL: 1.10% UEL: 12.50%
Solubility in water:	45.7% Soluble
VOC (Minus Exempt):	139 grams/liter
Vapor Pressure (mmHg):	6
Vapor Density (air=1):	Heavier than air
WPG:	10.50
Specific Gravity (H20=1):	1.261
Flammability:	Classification according to EC-regulations “non-flammable”
Ignition Temperature:	N/A
Evaporation Rate:	Slower (than n-butyl acetate)

SECTION 10 — STABILITY AND REACTIVITY

Hazardous Decomposition/Byproducts:	Aldehydes, Carbon Dioxide, Carbon Monoxide, Oxides of Nitrogen
Incompatibility (Materials to Avoid):	Acids, Alkaline Materials, Oxidizing Agents
Stability:	Stable product at normal conditions
Hazardous Polymerization:	Will not occur
Conditions to Avoid:	Temperatures above 110°F (43°C) and below 50°F (10°C)

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute toxicity:	None Known		
Special Effect:	None Known		
Carcinogenicity:	NTP	IARC Monographs	OSHA Regulated
	No	No	No

SECTION 12 — ECOLOGICAL INFORMATION

No environmental hazards have been reported or known.

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:	In accordance with 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 (R36/37/38):	Irritating to eyes, respiratory system, 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.
EU Classification: (67/548/EEC-88/379/EEC)	This product does not have to be classified according to the EU Regulations.
EINECS Status:	All components are included in the EINECS Inventories
TSCA:	All ingredients of this product are listed or are excluded from the listing on the U.S. Toxic Substance Control Act (TSCA) Chemical Substance inventory.
REACH:	This product does not require REACH registration.

SECTION 16 — OTHER INFORMATION

HMIS RATING: Health: 3 Reactivity: 0 Flammability: 1 Personal Protection: B Goggles, Gloves

NFPA RATING: Special Hazard: 0 Health: 3 Flammability: 2 Reactivity: 0

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N/A = Not Applicable; NE = None Established