

## Selection & Specification Data

<b>Generic Type</b>	Cycloaliphatic Amine Epoxy
<b>Description</b>	High solids corrosion resistant primer and intermediate. Used either as a primer or an intermediate coat over steel and inorganic zinc primers. Can be topcoated with a broad variety of high performance finish coats.
<b>Features</b>	<ul style="list-style-type: none"> <li>▪ Excellent corrosion protection</li> <li>▪ Excellent film build and edge protection</li> <li>▪ Used as a primer or an intermediate coating</li> <li>▪ Good abrasion resistance</li> <li>▪ Cures down to 40°F</li> <li>▪ VOC compliant to current AIM regulations</li> </ul>
<b>Color</b>	Red (0500); Gray (0700); White (0800); Yellow (0600)
<b>Finish</b>	Eggshell
<b>Primers</b>	Self-priming. May be applied over organic and inorganic zinc rich primers. A mist coat may be required to minimize bubbling over zinc rich primers.
<b>Topcoats</b>	Acrylics, Alkyds, Epoxies, Polyurethanes
<b>Dry Film Thickness</b>	<p>3.0 mils (75 microns) for mild environments and as an intermediate coat over inorganic zincs.</p> <p>4.0-6.0 mils (100-150 microns) for more severe environments.</p> <p>Do not exceed 10.0 mils (250 microns) in a single coat. Excessive film thickness over inorganic zincs may increase damage during shipping or erection.</p>
<b>Solids Content</b>	By Volume: 77% ± 2%
<b>Theoretical Coverage Rate</b>	<p>1235 mil ft<sup>2</sup> (30.8 m<sup>2</sup>/l at 25 microns)</p> <p>412 ft<sup>2</sup> at 3 mils (10.3 m<sup>2</sup>/l at 75 microns)</p> <p>Allow for loss in mixing and application</p>
<b>VOC Values</b>	<p>As supplied: 1.6 lbs/gal (195 g/l)</p> <p>Thinned:*</p> <p>16 oz/gal w/ #2: 2.2 lbs/gal (261 g/l)</p> <p>32 oz/gal w/ #33: 2.7 lbs/gal (329 g/l)</p> <p>33 oz/gal w/ #230 2.8 lbs/gal (337 g/l)</p> <p>These are nominal values and may vary slightly with color.</p> <p>*Maximum thinning for 250 g/l restricted areas is 12 oz/gal with Thinner #2, and 11 oz/gal with Thinner #33 or #230. Use Thinner #76 where non-photochemically reactive solvents are required (up to 11 oz/gal).</p>
<b>Dry Temp. Resistance</b>	<p>Continuous: 200°F (93°C)</p> <p>Non-Continuous: 250°F (121°C)</p> <p>Discoloration and loss of gloss is observed above 200°F (93°C).</p>
<b>Limitations</b>	Not recommended for immersion service

## Substrates & Surface Preparation

<b>General</b>	Surfaces must be clean and dry. Employ adequate methods to remove dirt, dust, oil and all other contaminants that could interfere with adhesion of the coating.
<b>Steel</b>	SSPC-SP6 with a 1.0-2.0 mil (25-50 micron) surface profile.
<b>Galvanized Steel</b>	Prime with specific Carboline primers as recommended by your Carboline Sales Representative. Refer to the specific primer's Product Data Sheet for substrate preparation requirements.
<b>Concrete</b>	Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D42582 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing.

## Performance Data

Test Method	System	Results	Report #
ASTM D4060 Abrasion	Blasted Steel 1 ct. 893	88 mg. loss after 1000 cycles, CS17 wheel, 1000 gm. load	L401-28
ASTM B117 Salt Fog	Blasted Steel 1 ct. IOZ 1 ct. 893	No blistering, rusting and no creepage at scribe after 4000 hrs	03120
ASTM D1735 Water Fog	Blasted Steel 1 ct. IOZ 1 ct. 893	No blistering, softening or rusting after 5000 hours	02514,5
ASTM D2583 Hardness	Blasted Steel 1 ct. 893	73, Barcol Test, 1 week cure, 5 mils DFT	L401-28
ASTM G26 Weatherometer	Blasted Steel 1 ct. IOZ 1 ct. 893	No blistering, softening or rusting after 4000 hours	03120

Test reports and additional data available upon written request.

# Carboguard® 893

## Application Equipment

Listed below are general equipment guidelines for the application of this product. Job site conditions may require modifications to these guidelines to achieve the desired results.

**Spray Application (General)** This is a high solids coating and may require adjustments in spray techniques. Wet film thickness is easily and quickly achieved. The following spray equipment has been found suitable and is available from manufacturers such as Binks, DeVilbiss and Graco.

**Conventional Spray** Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .070" I.D. fluid tip and appropriate air cap.

**Airless Spray** Pump Ratio: 30:1 (min.)  
GPM Output: 3.0 (min.)  
Material Hose: 3/8" I.D. (min.)  
Tip Size: .017-.021"  
Output PSI: 2100-2300  
Filter Size: 60 mesh  
Teflon packings are recommended and available from the pump manufacturer.

**Brush & Roller (General)** Multiple coats may be required to obtain desired appearance, recommended dry film thickness and adequate hiding. Avoid excessive re-brushing or re-rolling. For best results, tie-in within 10 minutes at 75°F (24°C).

**Brush** Use a medium bristle brush.

**Roller** Use a short-nap synthetic roller cover with phenolic core.

## Mixing & Thinning

**Mixing** Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS. A 30-minute "sweat-in" time is highly recommended for applications below 50°F and will improve cure response.

**Ratio** 1:1 Ratio (A to B)

**Thinning\*** Spray: Up to 16 oz/gal (12%) w/ #2 or up to 33 oz of #230  
Brush: Up to 32 oz/gal (25%) w/ #33  
Roller: Up to 32 oz/gal (25%) w/ #33  
Mist coating: Thin up to 32 oz/gal with Thinner #2 or #33 in VOC restricted (2.8lb/gal) areas. May thin up to 48 oz/gal where VOC restricted levels are at 3.5 lb/gal for mist coat only. If necessary, use Thinner 230 to slow down the evaporation rate (hot, dry, or windy conditions)  
Use of thinners other than those supplied or recommended by Carboline may adversely affect product performance and void product warranty, whether expressed or implied.  
\*See VOC values for thinning limits.

Carboline Thinner #236E may also be used to thin this product to minimize HAP and VOC emissions. Consult Carboline Technical Service for guidance.

**Pot Life** 4 Hours at 75°F (24°C)  
Pot life ends when coating loses body and begins to sag. Pot life times will be less at higher temperatures. Thinning rates above 16 oz/gal will shorten the working time to 2 hours.

## Cleanup & Safety

**Cleanup** Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.

**Safety** Read and follow all caution statements on this product data sheet and on the MSDS for this product. Employ normal workmanlike safety precautions. Hypersensitive persons should wear protective clothing, gloves and use protective cream on face, hands and all exposed areas.

**Ventilation** When used in enclosed areas and product is thinned, thorough air circulation must be used during and after application until the coating is cured. The ventilation system should be capable of preventing the solvent vapor concentration from reaching the lower explosion limit for the solvents used. User should test and monitor exposure levels to insure all personnel are below guidelines. If not sure or if not able to monitor levels, Use MSHA/NIOSH approved supplied air respirator.

October 2009 replaces April 2009

To the best of our knowledge the technical data contained herein is true and accurate on the date of publication and is subject to change without prior notice. User must contact Carboline Company to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. We guarantee our products to conform to Carboline quality control. We assume no responsibility for coverage, performance or injuries resulting from use. Liability, if any, is limited to replacement of products. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY CARBOLINE, EXPRESS OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Carboline® and Carboguard® are registered trademarks of Carboline Company.

## Cleanup & Safety Cont.

### Caution

This product contains flammable solvents. Keep away from sparks and open flames. All electrical equipment and installations should be made and grounded in accordance with the National Electric Code. In areas where explosion hazards exist, workmen should be required to use non-ferrous tools and wear conductive and non-sparking shoes.

## Application Conditions

Condition	Material	Surface	Ambient	Humidity
Normal	60°-85°F (16°-29°C)	60°-85°F (16°-29°C)	60°-90°F (16°-32°C)	0-80%
Minimum	40°F (4°C)	40°F (4°C)	40°F (4°C)	0%
Maximum	90°F (32°C)	135°F (57°C)	110°F (43°C)	90%

This product simply requires the substrate temperature to be above the dew point. Condensation due to substrate temperatures below the dew point can cause flash rusting on prepared steel and interfere with proper adhesion to the substrate. Special application techniques may be required above or below normal application conditions.

## Curing Schedule

Surface Temp. & 50% Relative Humidity	Dry to Touch	Dry to Handle	Dry to Topcoat
40°F (4°C)	6 Hours	24 Hours	72 Hours
50°F (10°C)	5 Hours	16 Hours	24 Hours
60°F (16°C)	4 Hours	12 Hours	16 Hours
75°F (24°C)	3 Hours	6 Hours	8 Hours
90°F (32°C)	2 Hours	3 Hours	4 Hours

Surface Temp. & 50% Relative Humidity	Maximum Recoat Time w/ Epoxies	Maximum Recoat Time w/ Polyurethanes	Maximum Recoat Time w/ Acrylics
40°F (4°C)	30 Days	90 Days	14 Days
50°F (10°C)	30 Days	90 Days	14 Days
75°F (24°C)	30 Days	90 Days	14 Days
90°F (32°C)	15 Days	30 Days	14 Days

These times are based on a 4.0 mil (100 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperatures will require longer cure times and could result in solvent entrapment and premature failure. Excessive humidity or condensation on the surface during curing can interfere with the cure, can cause discoloration and may result in a surface haze. Any haze or blush must be removed by water washing before recoating. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. If the maximum recoat time is exceeded, the surface must be abraded by sweep blasting or sanding before the application of additional coats. When cured below 50°F, a slight softening is typically observed as the temperature rises above 50°F and is considered normal.

## Packaging, Handling & Storage

<b>Shipping Weight (Approximate)</b>	<b>2 Gallon Kit</b> 29 lbs (13 kg)	<b>10 Gallon Kit</b> 143 lbs (65 kg)
<b>Flash Point (Setaflash)</b>	Carboguard 893 Part A: 61°F (16°C) Carboguard 893 Part B: 59°F (15°C)	
<b>Storage Temperature &amp; Humidity</b>	40° - 110°F (4°-43°C) Store indoors. 0-90% Relative Humidity	
<b>Shelf Life</b>	Part A: Min. 36 months at 75°F (24°C) Part B: Min. 24 months at 75°F (24°C)	

**\*Shelf Life: (actual stated shelf life) when kept at recommended storage conditions and in original unopened containers.**



350 Hanley Industrial Court, St. Louis, MO 63144-1599  
314/644-1000 314/644-4617 (fax) www.carboline.com

An **RPM** Company



# Material Safety Data Sheet

**CHEMTREC Transportation  
Emergency Phone: 800-424-  
9300**

**Pittsburgh Poison Control  
Center  
Health Emergency No.: 412-  
681-6669**

•NOTE: The CHEMTREC Transportation  
•Emergency Phone is to be used only in the  
•event of chemical emergencies involving a  
•spill, leak, fire, exposure or accident  
•involving chemicals

## Section 1 - Chemical Product / Company Information

**Product Name:** CARBOGUARD 893 PART A  
**Identification Number:** PLMSDS 0988A1NL  
**Product Use/Class:** Cycloaliphatic Amine Epoxy - FOR INDUSTRIAL USE ONLY  
**Revision Date:** 03/28/2011  
**Supersedes :** 06/10/2009  
**Preparer:** Regulatory, Department  
**Manufacturer:** Carboline Company  
2150 Schuetz Road  
St. Louis, MO 63146  
(800) 848-4645

## Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA-CEIL
MICROCRYSTALLINE SILICA	14808-60-7	55.0	0.025 MG/M3 (respirable)	N/E	0.1 MG/M3 (respirable)	N/E
TITANIUM DIOXIDE	13463-67-7	25.0	10 MGM3	N/E	10 MGM3	N/E
EPOXY RESIN	25068-38-6	20.0	NE	NE	NE	NE
EPOXY RESIN	25036-25-3	10.0	N/E	N/E	N/E	N/E
1,2-BENZENEDICARBOXYLIC ACID, DI-C6-12-BRANCHED AND LINEAR ALKYL ESTERS	392662-40-7	10.0	N/E	N/E	N/E	N/E
TOLUENE	108-88-3	5.0	20 PPM	N/E	375 MGM3	NE
CARBON BLACK	1333-86-4	5.0	3.5 MG/M3	N/E	3.5 MG/M3	N/E
METHYL ETHYL KETONE	78-93-3	5.0	200 PPM	300 PPM	590 MGM3	N/E
1-METHOXY-2-PROPANOL ACETATE	108-65-6	5.0	N/E	N/E	N/E	N/E
ISOPROPANOL	67-63-0	5.0	200 PPM	400 PPM	980 MGM3	N/E
META-XYLENE	108-38-3	5.0	434 Mg/M3	651 Mg/M3	434 Mg/M3	N/E
ETHYL BENZENE	100-41-4	0.6	100 PPM	125 PPM	435 MGM3	N/E

## Section 3 - Hazards Identification

**Emergency Overview:** Warning! Flammable. Harmful if inhaled. Causes eye and skin irritation. Aspiration may cause lung damage. May cause dizziness and drowsiness. Keep away from heat, sparks, flame. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Do not swallow. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Contains SILICA which can cause cancer. Risk of Cancer depends on duration and level of exposure.

**Effects Of Overexposure - Eye Contact:** May cause eye irritation.

**Effects Of Overexposure - Skin Contact:** May cause skin sensitization. Direct skin contact may cause irritation. May cause allergic skin reaction.

**Effects Of Overexposure - Inhalation:** Harmful if inhaled, may affect the brain or nervous system, causing dizziness, headache, or nausea. May cause nose and throat irritation.

**Effects Of Overexposure - Ingestion:** Harmful if swallowed.

**Effects Of Overexposure - Chronic Hazards:** Crystalline silica is known to cause silicosis. Crystalline silica (Quartz) is classified as a known human carcinogen (Group 1) by IARC. Exposure is by route of inhalation. If material is in a liquid matrix it is unlikely to be inhaled. However, when sanding or grinding the finished product, there may be potential for crystalline silica to become airborne. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

**Primary Route(s) Of Entry:** Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

**Medical Conditions Prone to Aggravation by Exposure:** If sensitized to amines, epoxies, or other chemicals do not use. See a physician if a medical condition exists. If you have a condition that could be aggravated by exposure to dust or organic vapors, see a physician prior to use.

## Section 4 - First Aid Measures

**First Aid - Eye Contact:** If material gets into eyes, flush with water immediately for 15 minutes. Consult a physician.

**First Aid - Skin Contact:** In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Launder clothing before reuse. If rash or irritation develops, consult a physician.

**First Aid - Inhalation:** If inhaled, remove to fresh air. Administer oxygen if necessary. Consult a physician if symptoms persist or exposure was severe.

**First Aid - Ingestion:** If swallowed do not induce vomiting. Seek immediate medical attention.

## Section 5 - Fire Fighting Measures

**Flash Point, F:** 61F (16C)  
(Setaflash)

**Lower Explosive Limit, %:** 0.5  
**Upper Explosive Limit, %:** 12.0

**Extinguishing Media:** Carbon Dioxide, Dry Chemical, Foam, Water Fog

**Unusual Fire And Explosion Hazards:** Flammable Liquid. Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long distances and will flashback. Use mechanical ventilation when necessary to keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all ignition sources. Keep away from sparks, open flames and heat sources. All electric equipment and installations should be made and grounded in accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use non-ferrous tools and to wear conductive and non-sparking shoes.

**Special Firefighting Procedures:** Flammable. Cool fire-exposed containers using water spray.

## Section 6 - Accidental Release Measures

**Steps To Be Taken If Material Is Released Or Spilled:** Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Wear appropriate personal protection clothing and equipment. Follow exposure controls/personal protection guidelines in Section 8. Contain and soak up residual with an absorbent (clay or sand). Take up absorbant material and seal tightly for proper disposal. Dispose of in accordance with local, state and federal regulations. Refer to Section 15 for SARA Title III and CERCLA information.

## Section 7 - Handling And Storage

**Handling:** Do not get in eyes, on skin, or on clothing. Keep container tightly closed when not in use. Wear personal protection equipment. Do not breathe vapors. Wash thoroughly after handling. If pouring or transferring materials, ground all containers and tools. Do not weld, heat, cut or drill on full or empty containers. Use only in accordance with Carboline application instructions, container label and Product Data Sheet. Avoid breathing vapors or spray mist.

**Storage:** Keep away from heat, sparks, open flames and oxidizing agents. Keep containers closed. Store in a cool, dry place with adequate ventilation.

## Section 8 - Exposure Controls / Personal Protection

**Engineering Controls:** Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).

**Respiratory Protection:** Use only with ventilation to keep levels below exposure guidelines listed in Section 2. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved organic vapor respirator. Follow all current OSHA requirements for respirator use.

**Skin Protection:** Recommend impervious gloves and clothing to avoid skin contact. If material penetrates to skin, change gloves and clothing. The use of protective creams may be beneficial to certain individuals. Protective creams should be applied before exposure.

**Eye Protection:** Recommend safety glasses with side shields or chemical goggles to avoid eye contact.

**Other protective equipment:** Eye wash and safety showers should be readily available.

**Hygienic Practices:** Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and allow hazardous materials to pass through. Check shoes carefully after soaking before reuse.

## Section 9 - Physical And Chemical Properties

<b>Boiling Range:</b>	175 F (79 C) - 486 F (252 C)	<b>Vapor Density:</b>	Heavier than Air
<b>Odor:</b>	Epoxy	<b>Odor Threshold:</b>	N/D
<b>Appearance:</b>	Viscous Liquid, Various colors	<b>Evaporation Rate:</b>	Slower than Ether
<b>Solubility in H2O:</b>	N/D		
<b>Freeze Point:</b>	N/D	<b>Specific Gravity:</b>	app 1.56
<b>Vapor Pressure:</b>	N/D	<b>PH:</b>	N/D
<b>Physical State:</b>	Liquid		

(See section 16 for abbreviation legend)

## Section 10 - Stability And Reactivity

**Conditions To Avoid:** Heat, sparks and open flames.

**Incompatibility:** Keep away from strong oxidizing agents, heat and open flames.

**Hazardous Decomposition Products:** Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

**Hazardous Polymerization:** Will not occur under normal conditions.

**Stability:** This product is stable under normal storage conditions.

## Section 11 - Toxicological Information

**Product LD50:** N/D

**Product LC50:** N/D

Chemical Name	CAS Number	LD50	LC50
MICROCRYSTALLINE SILICA	14808-60-7	NOT AVAILABLE	NOT AVAILABLE
TITANIUM DIOXIDE	13463-67-7	>25 G/KG, ORAL, RAT	>6.82 MG/L 4 HR, RAT
EPOXY RESIN	25068-38-6	11.4G/KG RAT,ORAL	>20ML/KG SKIN,SENSITIZER
EPOXY RESIN	25036-25-3	NOT AVAILABLE	NOT AVAILABLE
1,2-BENZENEDICARBOXYLIC ACID, DI-C6-12-BRANCHED AND LINEAR ALKYL ESTERS	392662-40-7	>5000 MG/KG, ORAL, RAT	NOT AVAILABLE
TOLUENE	108-88-3	5.0 G/KG RAT ORAL, 14G/KG RABBIT DERMAL	8000 PPM/4HRS, RAT, INHALATION
CARBON BLACK	1333-86-4	NOT AVAILABLE	>8000 MG/KG, ORAL, RAT
METHYL ETHYL KETONE	78-93-3	2737MG/KG RAT,ORAL	> 5000 PPM/1 HOUR RAT,INHALATION
1-METHOXY-2-PROPANOL ACETATE	108-65-6	NOT AVAILABLE	NOT AVAILABLE
ISOPROPANOL	67-63-0	4720MG/KG RAT,ORAL	22500 PPM/8HRS RAT,INHALATION
META-XYLENE	108-38-3	NOT AVAILABLE	NOT AVAILABLE
ETHYL BENZENE	100-41-4	3500 MG/KG RAT,ORAL	NOT AVAILABLE

## Section 12 - Ecological Information

**Ecological Information:** No data

## Section 13 - Disposal Information

**Disposal Information:** Dispose of in accordance with State, Local, and Federal Environmental regulations. Responsibility for proper waste disposal is with the owner of the waste.

## Section 14 - Transportation Information

**DOT Proper Shipping Name:** Paint

**Packing Group:** II

**DOT Technical Name:** N/A

**Hazard Subclass:**N/A

**DOT Hazard Class:** 3

**Resp. Guide** 128

**Page:**

**DOT UN/NA Number:** 1263

**Additional Notes:** None.



## Section 15 - Regulatory Information

### CERCLA - SARA HAZARD CATEGORY

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD

### SARA SECTION 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS Number</u>
TOLUENE	108-88-3
META-XYLENE	108-38-3
ETHYL BENZENE	100-41-4

### TOXIC SUBSTANCES CONTROL ACT

All components of this product are listed on the TSCA inventory.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(B) Substances exist in this product

### U.S. STATE REGULATIONS AS FOLLOWS:

#### NEW JERSEY RIGHT-TO-KNOW

The following materials are non-hazardous, but are among the top five components in this product.

#### PENNSYLVANIA RIGHT-TO-KNOW

The following non-hazardous ingredients are present in the product at greater than 3%.

<u>Chemical Name</u>	<u>CAS Number</u>
IRON OXIDE	1332-37-2
YELLOW IRON OXIDE	51274-00-1

### CALIFORNIA PROPOSITION 65

**Warning: The following ingredients present in the product are known to the state of California to cause Cancer:**

<u>Chemical Name</u>	<u>CAS Number</u>
MICROCRYSTALLINE SILICA	14808-60-7
CARBON BLACK	1333-86-4
ETHYL BENZENE	100-41-4

**Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:**

**Chemical Name**  
TOLUENE

**CAS Number**  
108-88-3

**INTERNATIONAL REGULATIONS AS FOLLOWS:**

**CANADIAN WHMIS**

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

**CANADIAN WHMIS CLASS:** B2 D2A D2B

<b>Section 16 - Other Information</b>
---------------------------------------

**HMIS Ratings**

**Health:** 2

**Flammability:** 3

**Reactivity:** 0

**Personal Protection:** X

**VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED):** 195

**REASON FOR REVISION:** Changes made in Section(s): 2, 8, 11, and 15

**Legend:** N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations





# Material Safety Data Sheet

**CHEMTREC Transportation  
Emergency Phone: 800-424-  
9300**

**Pittsburgh Poison Control  
Center  
Health Emergency No.: 412-  
681-6669**

•NOTE: The CHEMTREC Transportation  
•Emergency Phone is to be used only in the  
•event of chemical emergencies involving a  
•spill, leak, fire, exposure or accident  
•involving chemicals

## Section 1 - Chemical Product / Company Information

**Product Name:** CARBOGUARD 893 PART B  
**Identification Number:** PLMSDS 0988B1NL  
**Product Use/Class:** Cycloaliphatic Amine Epoxy - FOR INDUSTRIAL USE ONLY  
**Revision Date:** 03/28/2011  
**Supersedes :** 09/18/2008  
**Preparer:** Regulatory, Department  
**Manufacturer:** Carboline Company  
2150 Schuetz Road  
St. Louis, MO 63146  
(800) 848-4645

## Section 2 - Composition / Information On Ingredients

Chemical Name	CAS Number	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA-CEIL
MICROCRYSTALLINE SILICA	14808-60-7	65.0	0.025 MG/M3 (respirable)	N/E	0.1 MG/M3 (respirable)	N/E
TOLUENE	108-88-3	10.0	20 PPM	N/E	375 MGM3	NE
ISOPROPANOL	67-63-0	5.0	200 PPM	400 PPM	980 MGM3	N/E
BENZYL ALCOHOL	100-51-6	5.0	N/E	N/E	N/E	N/E
POLYOXYPROPYLENEDIAMINE	9046-10-0	5.0	N/E	N/E	N/E	N/E
CYCLOALIPHATIC AMINE	TRADE SECRET	5.0	NE	N/E	NE	NE
CYCLOALIPHATIC AMINE	TRADE SECRET	5.0	NE	N/E	NE	NE
DIAMINOCYCLOHEXANE	694-83-7	5.0	N/E	N/E	N/E	N/E
AROMATIC HYDROCARBON	64742-95-6	5.0	N/E	N/E	N/E	N/E
1,2,4 TRIMETHYLBENZENE	95-63-6	5.0	25 PPM	N/E	125 MGM3	N/E

## Section 3 - Hazards Identification

**Emergency Overview:** Warning! Flammable. Harmful if inhaled. Causes eye and skin irritation. Aspiration may cause lung damage. May cause dizziness and drowsiness. Keep away from heat, sparks, flame. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Do not swallow. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling. Contains SILICA which can cause cancer. Risk of Cancer depends on duration and level of exposure. Skin and eye irritant.

**Effects Of Overexposure - Eye Contact:** Can cause eye burns.

**Effects Of Overexposure - Skin Contact:** May be harmful if absorbed through the skin. Can cause skin burns.

**Effects Of Overexposure - Inhalation:** Harmful if inhaled, may affect the brain or nervous system, causing dizziness, headache, or nausea. May cause nose and throat irritation. May cause lung irritation. May cause

allergic respiratory reaction, effects may be permanent.

**Effects Of Overexposure - Ingestion:** Harmful if swallowed.

**Effects Of Overexposure - Chronic Hazards:** Crystalline silica is known to cause silicosis. Crystalline silica (Quartz) is classified as a known human carcinogen (Group 1) by IARC. Exposure is by route of inhalation. If material is in a liquid matrix it is unlikely to be inhaled. However, when sanding or grinding the finished product, there may be potential for crystalline silica to become airborne. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

**Primary Route(s) Of Entry:** Skin Contact, Skin Absorption, Inhalation, Ingestion, Eye Contact

**Medical Conditions Prone to Aggravation by Exposure:** If sensitized to amines, epoxies, or other chemicals do not use. See a physician if a medical condition exists. If you have a condition that could be aggravated by exposure to dust or organic vapors, see a physician prior to use.

## Section 4 - First Aid Measures

**First Aid - Eye Contact:** If material gets into eyes, flush with water immediately for 15 minutes. Consult a physician.

**First Aid - Skin Contact:** In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. Launder clothing before reuse. If rash or irritation develops, consult a physician.

**First Aid - Inhalation:** If inhaled, remove to fresh air. Administer oxygen if necessary. Consult a physician if symptoms persist or exposure was severe.

**First Aid - Ingestion:** If swallowed do not induce vomiting. Seek immediate medical attention.

## Section 5 - Fire Fighting Measures

**Flash Point, F:** 59F (15C)  
(Setaflash)

**Lower Explosive Limit, %:** 0.5  
**Upper Explosive Limit, %:** 12.0

**Extinguishing Media:** Carbon Dioxide, Dry Chemical, Foam, Water Fog

**Unusual Fire And Explosion Hazards:** Flammable Liquid. Vapors are heavier than air and will accumulate. Vapors will form explosive concentrations with air. Vapors travel long distances and will flashback. Use mechanical ventilation when necessary to keep percent vapor below the "Lower Explosion Level" (LEL). Eliminate all ignition sources. Keep away from sparks, open flames and heat sources. All electric equipment and installations should be made and grounded in accordance with the National Electrical Code. In areas where explosion hazards exist, workers should be required to use non-ferrous tools and to wear conductive and non-sparking shoes.

**Special Firefighting Procedures:** Evacuate hazard area of unprotected personnel. Use a NIOSH approved self-contained breathing unit and complete body protection. Cool surrounding containers with water in case of fire exposure. Flammable. Cool fire-exposed containers using water spray.

## Section 6 - Accidental Release Measures

**Steps To Be Taken If Material Is Released Or Spilled:** Eliminate all ignition sources. Handling equipment must be grounded to prevent sparking. Evacuate the area of unprotected personnel. Wear appropriate

personal protection clothing and equipment. Follow exposure controls/personal protection guidelines in Section 8. Contain and soak up residual with an absorbent (clay or sand). Take up absorbant material and seal tightly for proper disposal. Dispose of in accordance with local, state and federal regulations. Refer to Section 15 for SARA Title III and CERCLA information.

## Section 7 - Handling And Storage

**Handling:** Do not get in eyes, on skin, or on clothing. Keep container tightly closed when not in use. Wear personal protection equipment. Do not breathe vapors. Wash thoroughly after handling. If pouring or transferring materials, ground all containers and tools. Do not weld, heat, cut or drill on full or empty containers. Use only in accordance with Carboline application instructions, container label and Product Data Sheet. Avoid breathing vapors or spray mist.

**Storage:** Keep away from heat, sparks, open flames and oxidizing agents. Keep containers closed. Store in a cool, dry place with adequate ventilation.

## Section 8 - Exposure Controls / Personal Protection

**Engineering Controls:** Use explosion-proof ventilation when required to keep below health exposure guidelines and Lower Explosion Limit (LEL).

**Respiratory Protection:** Use only with ventilation to keep levels below exposure guidelines listed in Section 2. User should test and monitor exposure levels to ensure all personnel are below guidelines. If not sure, or not able to monitor, use MSHA/NIOSH approved organic vapor respirator. Follow all current OSHA requirements for respirator use.

**Skin Protection:** Recommend impervious gloves and clothing to avoid skin contact. If material penetrates to skin, change gloves and clothing. The use of protective creams may be beneficial to certain individuals. Protective creams should be applied before exposure.

**Eye Protection:** Recommend safety glasses with side shields or chemical goggles to avoid eye contact.

**Other protective equipment:** Eye wash and safety showers should be readily available.

**Hygienic Practices:** Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet facilities. Use of a hand cleaner is recommended. Launder contaminated clothing before reuse. Leather shoes can absorb and allow hazardous materials to pass through. Check shoes carefully after soaking before reuse.

## Section 9 - Physical And Chemical Properties

<b>Boiling Range:</b>	176 F (80 C) - 530 F (277 C)	<b>Vapor Density:</b>	Heavier than Air
<b>Odor:</b>	Solvent	<b>Odor Threshold:</b>	N/D
<b>Appearance:</b>	Viscous, amber liquid	<b>Evaporation Rate:</b>	Slower than Ether
<b>Solubility in H2O:</b>	N/D		
<b>Freeze Point:</b>	N/D	<b>Specific Gravity:</b>	1.52
<b>Vapor Pressure:</b>	N/D	<b>PH:</b>	N/D
<b>Physical State:</b>	Liquid		

(See section 16 for abbreviation legend)

## Section 10 - Stability And Reactivity

**Conditions To Avoid:** Heat, sparks and open flames.

**Incompatibility:** Keep away from strong oxidizing agents, heat and open flames.

**Hazardous Decomposition Products:** Carbon monoxide, nitrogen oxides, and unidentified organic compounds. Consider all smoke and fumes from burning material as very hazardous. Welding, cutting or abrasive grinding can create smoke and fumes. Do not breathe any fumes or smoke from these operations.

**Hazardous Polymerization:** Will not occur under normal conditions.

**Stability:** This product is stable under normal storage conditions.

## Section 11 - Toxicological Information

**Product LD50:** N/D

**Product LC50:** N/D

Chemical Name	CAS Number	LD50	LC50
MICROCRYSTALLINE SILICA	14808-60-7	NOT AVAILABLE	NOT AVAILABLE
TOLUENE	108-88-3	5.0 G/KG RAT ORAL, 14G/KG RABBIT DERMAL	8000 PPM/4HRS, RAT, INHALATION
ISOPROPANOL	67-63-0	4720MG/KG RAT,ORAL	22500 PPM/8HRS RAT,INHALATION
BENZYL ALCOHOL	100-51-6	1230MG/KG RAT,ORAL	1000PPM/8HRS RAT,INHALATION
POLYOXYPROPYLENEDIAMINE	9046-10-0	.48 G/KG, ORAL, RAT	NOT AVAILABLE
CYCLOALIPHATIC AMINE	TRADE SECRET	1230 MG/KG ORAL RAT,2000 MG/KG DERMAL	NOT AVAILABLE
CYCLOALIPHATIC AMINE	TRADE SECRET	1230 MG/KG ORAL RAT,2000 MG/KG DERMAL	NOT AVAILABLE
DIAMINOCYCLOHEXANE	694-83-7	1752 MG/KG,RAT,ORAL	NOT AVAILABLE
AROMATIC HYDROCARBON	64742-95-6	4700 MG/KG, ORAL, RAT	3670 PPM/8 HOURS, RAT, INHALATION
1,2,4 TRIMETHYLBENZENE	95-63-6	5 GM/KG, ORAL, RAT	18 GM/M3/4HOURS

## Section 12 - Ecological Information

**Ecological Information:** No data

## Section 13 - Disposal Information

**Disposal Information:** Dispose of in accordance with State, Local, and Federal Environmental regulations. Responsibility for proper waste disposal is with the owner of the waste.

## Section 14 - Transportation Information

<b>DOT Proper Shipping Name:</b>	Paint	<b>Packing Group:</b>	II
<b>DOT Technical Name:</b>	N/A	<b>Hazard Subclass:</b>	N/A
<b>DOT Hazard Class:</b>	3	<b>Resp. Guide</b>	128
<b>DOT UN/NA Number:</b>	1263	<b>Page:</b>	

**Additional Notes:** None.

## Section 15 - Regulatory Information

### CERCLA - SARA HAZARD CATEGORY

This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311and

312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

IMMEDIATE HEALTH HAZARD, CHRONIC HEALTH HAZARD, FIRE HAZARD

### **SARA SECTION 313**

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

<u>Chemical Name</u>	<u>CAS Number</u>
TOLUENE	108-88-3
1,2,4 TRIMETHYLBENZENE	95-63-6

### **TOXIC SUBSTANCES CONTROL ACT**

All components of this product are listed on the TSCA inventory.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

No TSCA 12(B) Substances exist in this product

### **U.S. STATE REGULATIONS AS FOLLOWS:**

#### **NEW JERSEY RIGHT-TO-KNOW**

The following materials are non-hazardous, but are among the top five components in this product.

<u>Chemical Name</u>	<u>CAS Number</u>
HYDROCARBON RESIN	68855-24-3
POLYSTYRENE	9003-53-6

#### **PENNSYLVANIA RIGHT-TO-KNOW**

The following non-hazardous ingredients are present in the product at greater than 3%.

<u>Chemical Name</u>	<u>CAS Number</u>
HYDROCARBON RESIN	68855-24-3
POLYSTYRENE	9003-53-6

#### **CALIFORNIA PROPOSITION 65**

**Warning: The following ingredients present in the product are known to the state of California to cause Cancer:**

<u>Chemical Name</u>	<u>CAS Number</u>
MICROCRYSTALLINE SILICA	14808-60-7
CUMENE	98-82-8
ETHYL BENZENE	100-41-4
FORMALDEHYDE	50-00-0

**Warning: The following ingredients present in the product are known to the state of California to cause birth defects, or other reproductive hazards:**

<u>Chemical Name</u>	<u>CAS Number</u>
TOLUENE	108-88-3

## **INTERNATIONAL REGULATIONS AS FOLLOWS:**

### **CANADIAN WHMIS**

This MSDS has been prepared in compliance with Controlled Product Regulations except for the use of the 16 headings.

**CANADIAN WHMIS CLASS:** B2 D2A D2B

<b>Section 16 - Other Information</b>
---------------------------------------

#### **HMIS Ratings**

**Health:** 2

**Flammability:** 3

**Reactivity:** 0

**Personal Protection:** X

**VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED):** 195

**REASON FOR REVISION:** Changes made in Section(s): 1, 2, 5, 8, 9, 11, and 15

**Legend:** N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The information contained herein is, to the best of our knowledge and belief accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations