

November 18, 2013

**Transmitted via Electronic Mail**

Mr. Syed Arif, P.E.  
Permitting Section Administrator  
Office of Permitting & Compliance  
Division of Air Resource Management  
Florida Department of Environmental Protection  
2600 Blair Stone Road, M.S. 5500  
Tallahassee, Florida 32399-2400

**RE:** Request for Exemption from Air Construction (AC) Permitting  
P.L. Bartow Power Plant  
Duke Energy Florida, Inc.  
Title V Permit No: 1030011-016-AV

Dear Mr. Arif:

Per Rule 62-4.040(1)(b); F.A.C., Duke Energy Florida, Inc. (DEF) respectively requests an exemption from air construction permitting for a one-time activity. Specifically, two (2) former No. 6 fuel oil storage tanks will be converted or repurposed to hold industrial wastewater. These tanks are identified in Appendix U as Emission Unit (EU) -021 in the facility's current Title V Air Operation Permit 1030011-016-AV. Any remaining No. 6 fuel oil is being removed from the tanks and they will be "gritblasted" with Black Beauty™ media followed by the spraycoat application of a two-part epoxy material. This activity is scheduled to occur at the P.L. Bartow Power Plant in early 2014.

Based on this activity, DEF has identified both the "gritblasting" and spraycoating activities as potential emission sources above the exemption thresholds delineated in Rules 62-210.300(b)1 and 62-213.430(6)(b); F.A.C. for particulate matter (PM), volatile organic compounds (VOC) and hazardous air pollutants (HAP). DEF has obtained the equipment specifications and information on the quantity and composition of material to be employed in the repurposing of the former oil storage tanks. Equipment descriptions and composition of the two-part epoxy spraycoating material can be found in Attachments A and B. This information was used to assess if this activity exceeded the exemption emissions thresholds previously noted. Based on this information it was determined the particulate matter (PM) and VOC emissions would not exceed the five (5) ton emission exemption threshold; however, the Total HAP and individual HAP would exceed the exemption thresholds of 2,500 pounds and 1,000 pounds, respectively. The applicable determination of estimated emissions can be found in Attachment C and a summary of these emissions can be found in Attachment D.

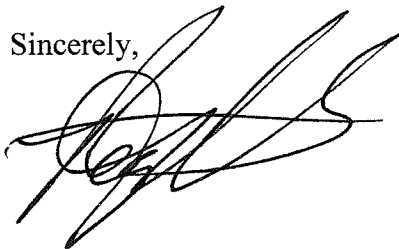
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DEF appreciates your assistance with regard to this exemption request and if you have any questions or require clarification of the material presented, please do not hesitate to contact Mr. Chris Bradley of DEF by telephone at 727.820.5962 or via electronic mail at [Chris.Bradley@duke-energy.com](mailto:Chris.Bradley@duke-energy.com).

**CERTIFICATION STATEMENT:**

*"I am authorized to make this submission on behalf of the owners and operators of the source or units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."*

Sincerely,



Reginald Anderson  
Station Manager  
Responsible Official

Attachments

cc: Mr. Scott Sheplak, P.E., Permitting Section, DARM

# **ATTACHMENT A**

## **FILTER “BAGHOUSE” EQUIPMENT SPECIFICATIONS**

## ATTACHMENT A - continued



### Cyclone 40DC

The Cyclone 40 DC can handle those big jobs! Its 40,000 cfm will keep your containments well ventilated and with excellent visibility.

#### Specifications

- **Filtration:** 60 Top loading cartridges
- **Filter Cleaning:** Timed cycle reverse air pulse
- **Air Inlets:** 6 Total - 20 inch
- **Air to Cloth:** 2.56:1 at 40,000 cfm
- **Air Flow:** 40,000 cfm @ 12" w.c.
- **Filter Media:** 15,600 sq. ft. QX media
- **Efficiency:** 99.8% at .5 micron particle
- **Engine:** 6068T John Deere Turbo
- **Fan:** Non-overloading, spark resisting
- **Dimension:** 12' 2" x 8'5" x 32'
- High quality finish, Acrylic Urethane top coat

## **ATTACHMENT B**

INFORMATION FOR TWO-PART EPOXY SPRAYCOATING MATERIAL

CARBOGUARD<sup>®</sup> 891 PRODUCT DATA SHEET

CARBOGUARD<sup>®</sup> 891 PART A MATERIAL SAFETY DATA SHEET (MSDS)

CARBOGUARD<sup>®</sup> 891 PART B MATERIAL SAFETY DATA SHEET (MSDS)

# CARBOGUARD<sup>®</sup> 891 PRODUCT DATA SHEET

## Selection & Specification Data

<b>Generic Type</b>	Cycloaliphatic Amine Epoxy
<b>Description</b>	High solids, high-build potable water coating widely used for lining interior steel and concrete tanks, valves and pipe. Formulated for application at conventional builds (4.0-6.0 mils per coat) as well as high builds (10.0 mils per coat).
<b>Features</b>	<ul style="list-style-type: none"> <li>▪ Excellent film build and edge protection</li> <li>▪ VOC compliant to current AIM regulations</li> <li>▪ Meets or exceeds all requirements of:               <ul style="list-style-type: none"> <li>•ANSI/NSF Std. 61 for potable water tanks of 6000 gallons or larger</li> <li>•AWWA D102 Inside System 1 and 2</li> <li>•AWWA C210 for use on interior of steel water pipe</li> <li>•Complies with FDA 21CFR 175.300 criteria for food contact</li> </ul> </li> </ul>
<b>Color</b>	White (S800); Gray (0794); Blue (4169); Other colors may be available but are limited to various approvals.
<b>Finish</b>	Gloss
<b>Primers</b>	Self-priming
<b>Topcoats</b>	Acrylics, Alkyds, Epoxies, Polyurethanes for non-immersion applications.
<b>Dry Film Thickness</b>	4.0-10.0 mils (100-250 microns) per coat. Do not exceed 17 mils (425 microns) per system for potable water applications.
<b>Solids Content</b>	By Volume: 75% ± 2%
<b>Theoretical Coverage Rate</b>	1203 ft <sup>2</sup> at 1 mil (30.0 m <sup>2</sup> /l at 25 microns) 241 ft <sup>2</sup> at 5 mils (6.0 m <sup>2</sup> /l at 125 microns) Allow for loss in mixing and application.
<b>VOC Values</b>	As supplied: 1.8 lbs./gal (214 g/l) Thinned:* 8 oz/gal w/ #2 2.1 lbs./gal (249 g/l) 16 oz/gal w/ #33: 2.4 lbs./gal (285 g/l) These are nominal values and may vary with slightly with color. *Maximum thinning for 250 g/l restricted areas is 7 oz/gal for Thinner #33. Use Thinner #76 up to 8 oz/gal where non-photochemically reactive solvent is required.
<b>Dry Temp. Resistance</b>	Continuous: 250°F (121°C) Non-Continuous: 300°F (149°C) Discoloration and loss of gloss is observed above 200°F (93°C).
<b>Wet Temp. Resistance</b>	Immersion temperature resistance depends upon exposure. Consult Carboline Technical Service for specific information. It is recommended that metal tanks operating above 140 °F (60°C) be insulated.
<b>Limitations</b>	Epoxies lose gloss, discolor and eventually chalk in sunlight exposure.

## 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>	<u>Immersion:</u> SSPC-SP10 <u>Non-Immersion:</u> SSPC-SP6 <u>Surface Profile:</u> 1.5-3.0 mils (38-75 microns)
<b>Concrete</b>	<u>Immersion:</u> Concrete must be cured 28 days at 75°F (24°C) and 50% relative humidity or equivalent. Prepare surfaces in accordance with ASTM D4258 Surface Cleaning of Concrete and ASTM D4259 Abrading Concrete. Voids in concrete may require surfacing.

## Performance Data

Test Method	System	Results	Report #
ASTM D3363 Pencil Hardness	Blasted Steel 2 cts. 891	3H	03457
ANSI/NSF Std. 61	Blasted Steel 2 cts. 891	Pass	09434
AWWA C210 Specification	Blasted Steel 2 cts. 891	Pass	03457

Test reports and additional data available upon written request.

## 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. **General Guidelines:**

<b>Spray Application (General)</b>	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.
<b>Conventional Spray</b>	Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, .070" I.D. fluid tip and appropriate air cap.
<b>Airless Spray</b>	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. Use 45:1 pump ratio for elevated applications and 1/2" I.D. for hose lengths greater than 60'.
<b>Brush &amp; Roller (General)</b>	Not recommended for tank lining applications except when striping welds. 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).
<b>Brush</b>	Use a medium bristle brush.
<b>Roller</b>	Use a short-nap synthetic roller cover with phenolic core.

# Carboguard® 891

## Mixing & Thinning

<b>Mixing</b>	Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.
<b>Ratio</b>	1:1 Ratio (A to B)
<b>Thinning*</b>	Spray: Up to 8 oz/gal (6%) w/#2 (NSF Std.61 approved) Brush: Up to 16 oz/gal (13%) w/#33 (Non-NSF Std.61) Roller: Up to 16 oz/gal (13%) w/#33 (Non-NSF Std.61) 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.
<b>Pot Life</b>	Material begins to lose film build in 90 minutes at 75°F (24°C), and less at higher temperatures.

## Cleanup & Safety

<b>Cleanup</b>	Use Thinner #2 or Acetone. In case of spillage, absorb and dispose of in accordance with local applicable regulations.
<b>Safety</b>	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.
<b>Ventilation</b>	When used as a tank lining or in enclosed areas, 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 respirator.
<b>Caution</b>	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	50°F (10°C)	50°F (10°C)	50°F (10°C)	0%
Maximum	90°F (32°C)	125°F (52°C)	110°F (43°C)	80%

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 Recoat	Dry to Topcoat w/ Other Finishes	Final Cure for Immersion Service	Maximum Recoat Time
50°F (10°C)	12 Hours	24 Hours	N/R*	60 Days
60°F (16°C)	8 Hours	16 Hours	10 Days	30 Days
75°F (24°C)	4 Hours	8 Hours	5 Days	30 Days
90°F (32°C)	2 Hours	4 Hours	3 Days	15 Days

These times are based on a 4.0-6.0 mil (100-150 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. If the maximum recoat time is exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. For force curing, contact Carboline Technical Service for specific requirements. \*Note: Final cure temperatures below 60°F (16°C) are not recommended for tank linings.

## Packaging, Handling & Storage

<b>Shipping Weight (Approximate)</b>	<u>2 Gallon Kit</u> 29 lbs (13 kg)	<u>10 Gallon Kit</u> 145 lbs (66 kg)
<b>Flash Point (Setflash)</b>	Part A: 75°F (24°C) Part B: 81°F (27°C)	
<b>Storage (General)</b>	Store Indoors.	
<b>Storage Temperature &amp; Humidity</b>	40° -110°F (4°-43°C) 0-100% Relative Humidity	
<b>Shelf Life</b>	Part A: Min. 36 months at 75°F (24°C) Part B: 6 months at 75°F (24°C)	

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



2150 Schuetz Rd., St. Louis, MO 63146  
PH: 314-644-1000 Toll-Free: 800-848-4645  
www.carboline.com

An **RPM** Company

September 2013

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CARBOGUARD<sup>®</sup> 891 PART A

MATERIAL SAFETY DATA SHEET (MSDS)



# 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 891 PART A      **Revision Date:** 12/15/2011  
**Identification Number:** PLMSDS 0982A1NL      **Supercedes :** 07/12/2011  
**Product Use/Class:** Cycloaliphatic Amine Epoxy - FOR INDUSTRIAL USE ONLY  
**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
EPOXY RESIN	25068-38-6	35.0	NE	NE	NE	NE
EPOXY RESIN	25036-25-3	20.0	N/E	N/E	N/E	N/E
TITANIUM DIOXIDE	13463-67-7	20.0	10 MGM3	N/E	10 MGM3	N/E
TALC	14807-96-6	15.0	N/E	N/E	N/E	N/E
MICROCRYSTALLINE SILICA	14808-60-7	15.0	0.025 MG/M3 (respirable)	N/E	0.1 MG/M3 (respirable)	N/E
META-XYLENE	108-38-3	10.0	100 PPM	150 PPM	435 MG/M3	N/E
PARA-XYLENE	106-42-3	5.0	100 PPM	150 PPM	435 MGM3	N/E
ETHYL BENZENE	100-41-4	5.0	20 PPM	N/E	435 MGM3	N/E
ORTHO-XYLENE	95-47-6	5.0	100 PPM	150 PPM	435 MG/M3	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. Warning! May cause allergic skin reactions. May cause irritation. 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:** 75F (23C)  
(Setaflash)

**Lower Explosive Limit, %:** 1.0  
**Upper Explosive Limit, %:** 7.1

**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 supplied air respirator. Follow all current OSHA requirements for respirator use. For silica containing coatings in a liquid state, and/or if no exposure limits are established in Section 2 above, supplied air respirators are generally not required.

**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) - 232 F (111 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>	1.38
<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

<b>Chemical Name</b>	<b>CAS Number</b>	<b>LD50</b>	<b>LC50</b>
EPOXY RESIN	25068-38-6	11.4G/KG RAT,ORAL	>20ML/KG SKIN,SENSITIZER
EPOXY RESIN	25036-25-3	NOT AVAILABLE	NOT AVAILABLE
TITANIUM DIOXIDE	13463-67-7	>25 G/KG, ORAL, RAT	>6.82 MG/L 4 HR, RAT
TALC	14807-96-6	NOT AVAILABLE	NOT AVAILABLE
MICROCRYSTALLINE SILICA	14808-60-7	NOT AVAILABLE	NOT AVAILABLE
META-XYLENE	108-38-3	NOT AVAILABLE	NOT AVAILABLE
PARA-XYLENE	106-42-3	NOT AVAILABLE	NOT AVAILABLE
ETHYL BENZENE	100-41-4	3500 MG/KG RAT,ORAL	17.2 mg/L Inh, Rat 4h
ORTHO-XYLENE	95-47-6	NOT AVAILABLE	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

<b>DOT Proper Shipping Name:</b>	Paint	<b>Packing Group:</b>	III
<b>DOT Technical Name:</b>	N/A	<b>Hazard Subclass:</b>	N/A
<b>DOT Hazard Class:</b>	3	<b>Resp. Guide Page:</b>	128
<b>DOT UN/NA Number:</b>	UN 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>
META-XYLENE	108-38-3
PARA-XYLENE	106-42-3
ETHYL BENZENE	100-41-4
ORTHO-XYLENE	95-47-6

### **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.

#### **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>
TITANIUM DIOXIDE	13463-67-7
MICROCRYSTALLINE SILICA	14808-60-7
ETHYL BENZENE	100-41-4
CARBON BLACK	1333-86-4

**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

## **Section 16 - Other Information**

### **HMIS Ratings**

**Health:** 2

**Flammability:** 3

**Reactivity:** 0

**Personal Protection:** X

**VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED):** 214

**REASON FOR REVISION:** Changes made in Section(s) 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

CARBOGUARD<sup>®</sup> 891 PART B

MATERIAL SAFETY DATA SHEET (MSDS)





# 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 891 PART B      **Revision Date:** 07/12/2011  
**Identification Number:** PLMSDS 0982B1NL      **Supercedes :** 07/28/2008  
**Product Use/Class:** Cycloaliphatic Amine Epoxy - FOR INDUSTRIAL USE ONLY  
**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	60.0	0.025 MG/M3 (respirable)	N/E	0.1 MG/M3 (respirable)	N/E
BENZYL ALCOHOL	100-51-6	10.0	N/E	N/E	N/E	N/E
TALC	14807-96-6	10.0	N/E	N/E	N/E	N/E
ISOPHORONEDIAMINE	2855-13-2	10.0	N/E	N/E	N/E	N/E
AROMATIC HYDROCARBON	64742-95-6	10.0	N/E	N/E	N/E	N/E
1,2,4 TRIMETHYLBENZENE	95-63-6	10.0	25 PPM	N/E	125 MGM3	N/E
META-XYLENE	108-38-3	5.0	100 PPM	150 PPM	435 MG/M3	N/E
AMINE ADDUCT	TRADE SECRET	5.0	N/E	N/E	N/E	N/E
PARA-XYLENE	106-42-3	5.0	100 PPM	150 PPM	435 MGM3	N/E
ETHYL BENZENE	100-41-4	5.0	20 PPM	N/E	435 MGM3	N/E
ORTHO-XYLENE	95-47-6	5.0	100 PPM	150 PPM	435 MG/M3	N/E
FUMED SILICA	67762-90-7	5.0	N/E	N/E	0.8 MG/M3	N/E
N-BUTANOL	71-36-3	5.0	20 PPM	50 PPM	100 PPM	150 MGM3

## 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:** May cause eye burns.

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

skin.

**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:** 81F (27C)  
(Setaflash)

**Lower Explosive Limit, %:** 0.9  
**Upper Explosive Limit, %:** 7.0

**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 supplied air respirator. Follow all current OSHA requirements for respirator use. For silica containing coatings in a liquid state, and/or if no exposure limits are established in Section 2 above, supplied air respirators are generally not required.

**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) - 554 F (290 C)	<b>Vapor Density:</b>	Heavier than Air
<b>Odor:</b>	Amine	<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>	1.64
<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
BENZYL ALCOHOL	100-51-6	1230MG/KG RAT,ORAL	1000PPM/8HRS RAT,INHALATION
TALC	14807-96-6	NOT AVAILABLE	NOT AVAILABLE
ISOPHORONEDIAMINE	2855-13-2	>0.5 G/KG 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
META-XYLENE	108-38-3	NOT AVAILABLE	NOT AVAILABLE
AMINE ADDUCT	TRADE SECRET	>0.5 G/KG ORAL, RAT	NOT AVAILABLE
PARA-XYLENE	106-42-3	NOT AVAILABLE	NOT AVAILABLE
ETHYL BENZENE	100-41-4	3500 MG/KG RAT,ORAL	NOT AVAILABLE
ORTHO-XYLENE	95-47-6	NOT AVAILABLE	NOT AVAILABLE
FUMED SILICA	67762-90-7	> 1000 MG/KG, ORAL, RAT	NOT AVAILABLE
N-BUTANOL	71-36-3	2500MG/KG RAT,ORAL	>800PPM/4HRS RAT,INHALATION

## 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:** III

**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>
1,2,4 TRIMETHYLBENZENE	95-63-6
META-XYLENE	108-38-3
PARA-XYLENE	106-42-3
ETHYL BENZENE	100-41-4
ORTHO-XYLENE	95-47-6
N-BUTANOL	71-36-3

### 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%.

#### 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
ETHYL BENZENE	100-41-4
CUMENE	98-82-8
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>
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**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

**Section 16 - Other Information****HMIS Ratings****Health:** 3**Flammability:** 3**Reactivity:** 0**Personal Protection:** X

**VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED):** 214

**REASON FOR REVISION:** Changes made in Section(s) 1, 2, 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

# ATTACHMENT C

## CALCULATIONS

### A. PARTICULATE MATTER (PM):

1. Estimated quantity of Black Beauty™ “griblasting” material to be used: 875 tons
2. Efficiency of the Portable cartridge filter “baghouse”: 99.8% at 0.5 micron
3. Assumed percentage of material that will be filtered by the portable “baghouse”: 20%

#### Calculation for PM Emissions:

$(875 \text{ tons})(20\%/100)(1.0-0.998) = 0.35 \text{ tons}$ ; i.e., below the exemption threshold of 5.0 tons

### B. VOLATILE ORGANIC COMPOUNDS (VOC):

1. VOC content of the two-part epoxy spraycoating material: 2.1 pounds per gallon  
(Information from Product Information Sheet)
2. Estimated quantity of the epoxy product to be applied: 3,600 gallons  
(The 3,600 gals total consists of 1,800 gals each of the two parts of the epoxy product.)

#### Calculation for VOC Emissions:

$(3,600 \text{ gallons}) \times (2.1 \text{ lbs VOC/gallon}) \times (1 \text{ ton}/2,000 \text{ lbs}) = 3.8 \text{ tons}$

### C. TOTAL HAZARDOUS AIR POLLUTANTS (TOTAL HAP):

1. The Individual HAPs contained in the product are m-xylene, p-xylene, o-xylene, toluene and ethylbenzene
2. Total HAP content of the two-part epoxy spraycoating material: 1.22 pounds per gallon  
(Information from Air Quality Data Sheet)
3. Estimated quantity of the epoxy product to be applied: 3,600 gallons  
(The 3,600 gals total consists of 1,800 gals each of the two parts of the epoxy product.)

#### Calculation for Total HAP Emissions:

$(3,600 \text{ gals})(1.22 \text{ lbs HAP/gal}) = 4,392 \text{ lbs}$ ; i.e., above the exemption threshold of 2,500 lbs

## ATTACHMENT C - continued

### D. INDIVIDUAL HAZARDOUS AIR POLLUTANTS (HAP):

1. Estimated quantity of the two-part epoxy product to be applied: 3,600 gallons  
(The 3,600 gals total consists of 1,800 gals each of the two parts of the epoxy product.)
2. Highest HAP content (*m-Xylene*) of the two-part epoxy material: 0.45 lbs/gal  
(Information from Air Quality Data Sheet)
3. Second highest HAP content (*Toluene*) of the two-part epoxy material: 0.22 lbs/gal  
(Information from Air Quality Data Sheet)

#### Calculation for Highest Content Individual HAP Emissions: *m-Xylene*

$(3,600 \text{ gals})(0.45 \text{ lbs HAP/gal}) = 1,620 \text{ lbs}$ ; i.e., above the exemption threshold of 1,000 lbs

#### Calculation for second highest content Individual HAP Emissions: *Toluene*

$(3,600 \text{ gals})(0.22 \text{ lbs HAP/gal}) = 792 \text{ lbs}$ ; i.e., below the exemption threshold of 1,000 lbs



# ATTACHMENT D

TABLE I

EMISSION ESTIMATE SUMMARY FOR PARTICULATE MATTER (PM)

Pollutant	Black Beauty™ Used (Est.)	Black Beauty™ to “Baghouse” (Est.)	Removal Efficiency of “Baghouse”@ 0.5 µm <sup>1</sup>	Estimated Emissions (Tons / lbs)	Exemption Threshold	Exempt from Permitting
Particulate Matter (PM)	875 Tons	175 Tons (20%)	99.8%	0.35 / 700	5.0 Tons	Yes

<sup>1</sup> Note that µm = micron.

TABLE II

EMISSION ESTIMATES SUMMARY FOR VOLATILE ORGANIC COMPOUNDS (VOC) & HAZARDOUS AIR POLLUTANTS (HAP)

Pollutant	Concentration (lbs/gal)	Gallons of Product to be Used	Estimated Emissions (Tons / lbs)	Exemption Threshold	Exempt from Permitting
Volatile Organic Compounds (VOC)	2.10	3,600	3.78 / 7,560	5.0 Tons	Yes
Total Hazardous Air Pollutants (HAP)	1.22	3,600	2.20 / 4,392	2,500 lbs	No
Individual Hazardous Air Pollutants (HAP)					
m-Xylene	0.45	3,600	0.81 / 1,620	1,000 lbs	No
o-Xylene	0.14	3,600	0.25 / 504	1,000 lbs	Yes
p-Xylene	0.20	3,600	0.36 / 720	1,000 lbs	Yes
Ethylbenzene	0.19	3,600	0.34 / 684	1,000 lbs	Yes
Toluene	0.22	3,600	0.40 / 792	1,000 lbs	Yes
Cumene	0.02	3,600	0.04 / 72	1,000 lbs	Yes