product data



Carboguard® 890 & 890 LT

Selection	& Specification Data	Limitations	Do not appl projects use colors Con	y over latex coatings. Fo only factory made materi sult Technical Service f	or immersion ial in special or specifics
Generic Type	Cycloaliphatic Amine Epoxy		Carboguard	890 LT should not b	e used for
Description	Highly chemical resistant epoxy mastic coating with exceptionally versatile uses in all industrial markets. Self-priming and suitable for application over most		intermediate objectionable	coat. Discoloration	may be
	existing coatings, and tightly adherent to rust. Carboguard 890 serves as stand-alone system for a	Substrat	es & Sur	face Preparati	ion
Fasturas	 variety of chemical environments. Carboguard 890 is also designed for various immersion conditions. Excellent chemical resistance 	General	Surfaces must methods to contaminants t	be clean and dry. Emp remove dirt, dust, oil a hat could interfere with ac	oloy adequat ind all othe lhesion of th
reatures	Surface tolerant characteristics Conventional and low-temperature versions	Stool	coating.	SSPC-SP10	
	 Self-priming and primer/finish capabilities Very good abrasion resistance VOC compliant to current AIM regulations Suitable for use in USDA inspected facilities 	Sleer	Non-immersion: 1.5-3.0 mils (38 SSPC-SP2 or \$ environments.	-75 microns) SP3 are suitable cleaning m	ethods for mil
Color	Refer to Carboline Color Guide. Certain colors may require multiple coats for hiding. Note: The low temperature formulation will cause most colors to vellow or discolor more than normal in a short period	Galvanized Steel	Prime with speay your Carboline primer's Produ requirements.	cific Carboline primers as red Sales Representative. Refer ct Data Sheet for substra	commended b to the specifi te preparation
	of time. (Epoxies lose gloss, discolor and chalk in sunlight exposure.)	Concrete or CMU	Concrete must relative humid accordance wi	be cured 28 days at 75°F (2 ity or equivalent. Prepare ith ASTM D4258 Surface	24°C) and 50% e surfaces in Cleaning c
Finish	Gloss		Concrete and A concrete may	ASTM D4259 Abrading Con require surfacing. Mortar jo	crete. Voids in ints should be
Primers	Self-priming. May be applied over inorganic zinc primers and other tightly adhering coatings. A mist coat may be required to minimize hubbling over		cured a min of 1340, or suitabl	f 15 days. Prime with itself e filler/sealer.	, Carboguard
	inorganic zinc primers.	Drywall & Plaster	Joint compound coating applic	d and plaster should be fully ation. Prime with Carboc	r cured prior to rylic [®] 120 c
Topcoats	Acrylics, Epoxies, Polyurethanes		Carboguard 134	40.	
Dry Film Thickness	4.0-6.0 mils (100-150 microns) per coat 6.0-8.0 mils (150-200 microns) over light rust and for uniform gloss over inorganic zincs. Don't exceed 10 mils (250 microns) in a single coat.	Previously Painted Surfaces	Lightly sand or surface. Existin accordance with	abrade to roughen surface a g paint must attain a minimu n ASTM D3359 "X-Scribe" ad	nd degloss the im 3B rating in hesion test.
	Excessive film thickness over inorganic zincs may increase damage during shipping or erection.	Performa	ance Data	2	
Solids Content	By Volume (890): $75\% \pm 2\%$	Test Method	System	Results	Report #
	(890LT): $80\% \pm 2\%$	ASTM D3359 Adhesion	Blasted Steel 1 ct. 890	5A	0270
Theoretical Coverage Rate	890: 1203 mil ft ² (30.0 m ² /l at 25 microns) 241 ft ² at 5 mils (6.0 m ² /l at 125 microns) 890LT: 1283 mil ft ² (31.0 m ² /l at 25 microns) 257 ft ² at 5 mils (6.2 m ² /l at 25 microns)	ASTM D4060 Abrasion	Blasted Steel 1 ct. Epoxy Pr. 1 ct. 890	85 mg. loss after 1000 cycles, CS17 wheel, 1000 gm. load	02411
VOC Values	Allow for loss in mixing and application <u>890</u> <u>890 LT</u>	ASTM B117 Salt Fog	Blasted Steel 2 cts. 890	No effect on plane, rust in scribe. 1/16" undercutting at scribe after 2000 hours	02594
	As supplied 1.78lbs/gal (214 g/l) 1.5lbs/gal (180g/l) Thinned 7oz/gal=2.08lbs/gal 15oz/gal=2.08 w/#2*: (250g/l) Ibs/gal (250g/l) 13oz/gal=2.26lbs/gal	ASTM B117 Salt Fog	Blasted Steel 1 ct. IOZ 1 ct. 890	No effect on plane, no rust in scribe and no undercutting after 4000 hours	L40- 42,45,95
	(2/1g/l) Thinned 7oz/gal=2.08lbs/gal 14oz/gal=2.08 w/#33*: (250g/l) lbs/gal (250g/l)	ASTM D1735 Water Fog	Blasted Steel 1 ct. Epoxy Pr. 1 ct. 890	No blistering, rusting or delamination after 2800 hours	08564
	1002/gal=2.30lbS/gal 1002/gal=2.15 (285g/l) lbs/gal (258g/l) *Ilso Thipper 476 up to 8 co/cat for 200 and 40	ASTM D3363 Pencil Hardness	Blasted Steel 2 cts. 890	Greater than 8H	02775
	ose mininer #ro up to 8 oZ/gai for 890 and 16 oZ/gai for 890 LT where non-photochemically reactive solvents are required.	ASTM D2486 Scrub Resistance	Blasted Steel 1 ct. 890	93% gloss retained after 10,000 cycles w/ liquid scrub medium	03142
Dry Temp.	Continuous: 250°F (121°C)	ASTM E84 Flame and Smoke	2 ct. 890	5 Flame 5 Smoke Class A	03110

Test reports and additional data available upon written request.

February 2011 replaces December 2010

200°F (93°C).

Discoloration and loss of gloss is observed above

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0986/0983

Carboguard[®] 890 & 890 LT

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:

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 & 1	Thinning		
Mixing	Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.		
Ratio	890 and 890 LT 1:1 Ratio (A to B)		
Thinning*	Spray: Up to 13 oz/gal (10%) w/ #2 Brush: Up to 16 oz/gal (12%) w/ #33 Roller: Up to 16 oz/gal (12%) w/ #33 Thinner #33 can be used for spray in hot/windy conditions. Use of thinners other than those supplied or recommended by Carboline may adversely affect product vertex performance and void product werrapty		

	product performance and void product warranty, whether expressed or implied. *See VOC values for thinning limits.
Pot Life	890 3 Hours at 75°F (24°C) 890 LT 2 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.

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 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 supplied air respirator.
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

890					
Condition	Material	Surface	Ambient	Humidity	
Normal	60°-85°F	60°-85°F	60°-90°F	0.909/	
normai	(16°-29°C)	(16°-29°C)	(16°-32°C)	0-00%	
Minimum	50°F	50°F	50°F	09/	
wimimum	(10°C)	(10°C)	(10°C)	0%	
Maximum	90°F	125°F	110°F	0.0%	
IVIAXIIIIUIII	(32°C)	(52°C)	(43°C)	90%	
890 LT					
Normal	60-85°F	60-85°F	60-90°F	10 90%	
Normai	(16-29°C)	(16-29°C)	(16-32°C)	10-00 /8	
Minimum	40°F	35°F	35°F	0%	
Willington	(4°C)	(2°C)	(2°C)	0%	
Maximum	90°F	125°F	110°F	0.0%	
Maximum	(32°C)	(52°C)	(43°C)	90%	
his product simp	ly required the	ubstrate tempore	ture to be about	a tha daw pair	

his 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		Dry to Topcoa	at	Fina	al Cure
& 50% Relative Humidity	Recoat	w/ Other Finishes		General	Immersion
50°F (10°C)	12 Hours	24 Hours		3 Days	N/R
60°F (16°C)	8 Hours	16 Hours		2 Days	10 Days
75°F (24°C)	4 Hours	8 Hours		1 Day	5 Days
90°F (32°C)	2 Hours	4 Hours		16 Hours	3 Days
890 LT (Based on 5 mils, 125 microns dry film thickness.)					
Surface Temp. & 50% Relative Humidity	Dry to Touch	Dry to Handle	F Te	Dry to Recoat & opcoat w/ Others	Final Cure General Service
35°F (2°C)	5 Hours	18 Hours	2	20 Hours	7 Days
40°F (4°C)	4.5 Hours	15.5 Hours		16 Hours	5 Days
500F (1000)	3 5Hours	6.5 Hours	-	12 Hours	3 Days
50°F (10°C)	010110410				
50°F (10°C) 60°F (16°C)	2 Hours	5 Hours		8 Hours	2 Days
50°F (10°C) 60°F (16°C) 75°F (24°C)	2 Hours 1.5Hours	5 Hours 2 Hours		8 Hours 4 Hours	2 Days 24 Hours

cooler temperatures v require I 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 <u>must</u> be removed by water washing before recoating. During high humidity conditions, it is recommended that the application be done while temperatures are increasing. Maximum recoat/topcoat times are 30 days for epoxies and 90 days for polyurethanes at 75°F (24°C). If the maximum recoat times have been exceeded, the surface must be abraded by sweep blasting or sanding prior to the application of additional coats. 890 LT applied below 50°F (10°C) may temporarily soften as temperatures rise to 60°F (16°C). This is a normal condition and will not affect performance.

Packaging, Handling & Storage

Shipping Weight (Approximate) Flash Point (Setaflash)

Storage Temperature & Humidity Shelf Life: 890 & 890LT

Part A: 36 months at 75°F (24°C) 890 Part B: 15 months at 75°F (24°C) 890 LT Part B: 15 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



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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.

10 Gallon Kit

145 lbs (66 kg)

2 Gallon Kit 29 lbs (13 kg) 89°F (32°C) for Part A; 890 & 890 LT

73°F (23°C) for Part B; 890 & 890 LT 71°F (22°C) for 890 mixed 85°F (29°C) for 890 LT mixed

40° -110°F (4°-43°C) Store indoors. 0-100% Relative Humidity



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 890 PART A	Revisio
Identification Number:	PLMSDS 0986A1NL	Superc
Product Use/Class:	Cycloaliphatic Amine Epoxy - FOR INDUSTRIAL USE ONLY	
		Prepare

Revision Date: 05/25/2011 **Supercedes :** 03/16/2009

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
EPOXY RESIN	25036-25-3	45.0	N/E	N/E	N/E	N/E
TITANIUM DIOXIDE	13463-67-7	35.0	10 MGM3	N/E	10 MGM3	N/E
EPOXY RESIN	25068-38-6	30.0	NE	NE	NE	NE
MICROCRYSTALLINE SILICA	14808-60-7	25.0	0.025 MG/M3 (respirable)	N/E	0.1 MG/M3 (respirable)	N/E
1,2-	68515-43-5	20.0	N/E	N/E	N/E	N/E
BENZENEDICARBOXIOLIC	;					
ACID, DI-C9-11-						
BRANCHED AND LINEAR						
ALKYL ESTERS						
META-XYLENE	108-38-3	5.0	100 PPM	150 PPM	435 MG/M3	N/E
CARBON BLACK	1333-86-4	5.0	3.0 MG/M3	N/E	3.5 MG/M3	N/E
TOLUENE	108-88-3	5.0	20 PPM	N/E	375 MGM3	NE
SILICA AMORPHOUS	67762-90-7	5.0	10 MG/M3, INHALABLE	N/E	6 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
METHYL ETHYL KETONE	78-93-3	5.0	200 PPM	300 PPM	590 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: 89F (31C) (Setaflash) Lower Explosive Limit, %: 0.2 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 aborbent (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

Boiling Range: Odor: Appearance: Solubility in H2O:	175 F (79 C) - 465 F (241 C) Epoxy Viscous liquid, Various colors N/D	Vapor Density: Odor Threshold: Evaporation Rate:	Heavier than Air N/D Slower than Ether
Freeze Point: Vapor Pressure: Physical State:	N/D N/D Liquid	Specific Gravity: PH:	app. 1.40 N/D

(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
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
EPOXY RESIN	25068-38-6	11.4G/KG RAT,ORAL	>20ML/KG SKIN,SENSITIZER
MICROCRYSTALLINE SILICA	14808-60-7	NOT AVAILABLE	NOT AVAILABLE
1,2-BENZENEDICARBOXIOLIC ACID,	68515-43-5	>5000 MG/KG, ORAL, RAT	NOT AVAILABLE
DI-C9-11-BRANCHED AND LINEAR			
ALKYL ESTERS			
META-XYLENE	108-38-3	NOT AVAILABLE	NOT AVAILABLE
CARBON BLACK	1333-86-4	NOT AVAILABLE	>8000 MG/KG, ORAL, RAT
TOLUENE	108-88-3	5.0 G/KG RAT ORAL, 14G/KG RABBIT DERMAL	8000 PPM/4HRS, RAT, INHALATION
SILICA AMORPHOUS	67762-90-7	> 5000 MG/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
METHYL ETHYL KETONE	78-93-3	2737MG/KG RAT,ORAL	> 5000 PPM/1 HOUR RAT, INHALATION
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

DOT Proper Shipping Name:	Paint	Packing Group: III
DOT Technical Name: DOT Hazard Class:	N/A 3	Hazard Subclass:N/A 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:

Chemical Name	CAS Number
META-XYLENE	108-38-3
TOLUENE	108-88-3
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%.

Chemical Name ORGANIC PIGMENT AZO PIGMENT IRON OXIDE ORGANIC PIGMENT CAS Number 31837-42-0 2786-76-7 1332-37-2 5567-15-7

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> MICROCRYSTALLINE SILICA CARBON BLACK ETHYL BENZENE CUMENE CAS Number 14808-60-7 1333-86-4 100-41-4 98-82-8 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> 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

Section 16 - Other Information

HMIS Ratings Health: 2 Flammability: 3

Reactivity: 0

Personal Protection: X

VOLATILE ORGANIC COMPOUNDS, GR/LTR MIXED (UNTHINNED): Mixed with 890 Part B: 214 ; mixed with 890LT Part B: 180

REASON FOR REVISION: Changes made in Section(s): 1, 2, 3, 5, 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



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 890 PART BRevisitIdentification
Number:PLMSDS 0986B1NLSuperProductCycloaliphatic Amine Epoxy - FOR
INDUSTRIAL USE ONLYPrepa

Revision Date: 05/25/2011 **Supercedes :** 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	70.0	0.025 MG/M3	N/E	0.1 MG/M3	N/E
			(respirable)		(respirable)	
BENZYL ALCOHOL	100-51-6	10.0	N/E	N/E	N/E	N/E
META-XYLENE	108-38-3	5.0	100 PPM	150 PPM	435 MG/M3	N/E
ISOPHORONEDIAMINE	2855-13-2	5.0	N/E	N/E	N/E	N/E
TOLUENE	108-88-3	5.0	20 PPM	N/E	375 MGM3	NE
ISOPROPANOL	67-63-0	5.0	200 PPM	400 PPM	980 MGM3	N/E
AMINE COMPOUND	TRADE SECRET	5.0	N/E	N/E	N/E	N/E
POLYOXYPROPYLENEDIAMINE	9046-10-0	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
AMINE ADDUCT	TRADE SECRET	5.0	N/E	N/E	N/E	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
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
DIAMINOCYCLOHEXANE	694-83-7	5.0	N/E	N/E	N/E	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: 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: 71F (21C) (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 aborbent (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				
Boiling Range: Odor: Appearance: Solubility in H2O:	176 F (80 C) - 554 F (290 C) Solvent Viscous liquid N/D	Vapor Density: Odor Threshold: Evaporation Rate:	Heavier than Air N/D Slower than Ether	
Freeze Point: Vapor Pressure: Physical State:	N/D N/D Liquid	Specific Gravity: PH:	1.6 N/D	

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
META-XYLENE	108-38-3	NOT AVAILABLE	NOT AVAILABLE
ISOPHORONEDIAMINE	2855-13-2	>0.5 G/KG ORAL	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
AMINE COMPOUND	TRADE SECRET	NOT AVAILABLE	NOT AVAILABLE
POLYOXYPROPYLENEDIAMINE	9046-10-0	.48 G/KG, ORAL, RAT	NOT AVAILABLE
PARA-XYLENE	106-42-3	NOT AVAILABLE	NOT AVAILABLE
AMINE ADDUCT	TRADE SECRET	>0.5 G/KG ORAL, RAT	NOT AVAILABLE
ETHYL BENZENE	100-41-4	3500 MG/KG RAT,ORAL	NOT AVAILABLE
ORTHO-XYLENE	95-47-6	NOT AVAILABLE	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
DIAMINOCYCLOHEXANE	694-83-7	1752 MG/KG,RAT,ORAL	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:
DOT Technical Name: DOT Hazard Class:	N/A 3	Hazard Subclass:N/A Resp. Guide 128 Page:
DOT UN/NA Number:	1263	

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:

Chemical Name	CAS Number
META-XYLENE	108-38-3
TOLUENE	108-88-3
PARA-XYLENE	106-42-3
ETHYL BENZENE	100-41-4
ORTHO-XYLENE	95-47-6
1,2,4 TRIMETHYLBENZENE	95-63-6
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:

Chemical Name MICROCRYSTALLINE SILICA ETHYL BENZENE CUMENE FORMALDEHYDE CAS Number 14808-60-7 100-41-4 98-82-8 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:

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

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, 5, 9, 11, and 15

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

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