

SELECTION & SPECIFICATION DATA

Generic Type	Cycloaliphatic Amine Epoxy
Description	Nuclear grade, DBA tested, self priming epoxy. Tested and certified for use in Nuclear Level 1 areas in a variety of systems.
Features	<ul style="list-style-type: none"> • Excellent corrosion protection • Excellent film build and edge protection • Used as a primer or an intermediate coating • Good abrasion resistance • VOC compliant to current AIM regulations • Tested for Nuclear Service Level 1
Color	Yellow (0600)
Finish	Eggshell
Primer	Self-priming
Dry Film Thickness	3 - 6 mils (76 - 152 microns) per coat Note: Acceptable DFT ranges are based on plant specific DBA test data. Carboguard 893N has been tested in multi-coat and varying DFT range scenarios. Consult Carboline for applicable DBA test data.
Solids Content	By Volume 77% +/- 2%
Theoretical Coverage Rate	1235 ft²/gal at 1.0 mils (30.3 m²/l at 25 microns) 412 ft²/gal at 3.0 mils (10.1 m²/l at 75 microns) 206 ft²/gal at 6.0 mils (5.1 m²/l at 150 microns) Allow for loss in mixing and application.
VOC Values	As Supplied : 1.6 lbs/gal (195 g/l) Thinner 2 : 16 oz/gal = 2.2 lbs/gal (261 g/l) Thinner 33 : 32 oz/gal = 2.7 lbs/gal (329 g/l) These are nominal values and may vary slightly with color. *Maximum thinning for 250 g/l restricted areas is 12 oz/gal with Thinner #2 and 11 oz/gal with Thinner #33. Use Thinner #76 where non-photochemically reactive solvents are required, up to 11 oz/gal.
Dry Temp. Resistance	Continuous: 200°F (93°C) Non-Continuous: 250°F (121°C) Discoloration and loss of gloss is observed above 200°F (93°C)
Limitations	Epoxies may lose gloss, discolor and chalk when exposed to sunlight. Not recommended for immersion service.

SUBSTRATES & SURFACE PREPARATION

General	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.
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SUBSTRATES & SURFACE PREPARATION

Steel	Typical: SSPC-SP6 with a 1.0-2.0 mil (25-50 micron) surface profile. Surface preparation requirements will be plant-site specific.
Concrete or CMU	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.

MIXING & THINNING

Mixing	Power mix separately, then combine and power mix. DO NOT MIX PARTIAL KITS.
Thinning	<p>Spray: Up to 16 oz/gal (12%) w/ #2 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. 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.</p>
Ratio	1:1 Ratio (A to B)
Pot Life	<p>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.</p>

APPLICATION EQUIPMENT GUIDELINES

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.
Conventional Spray	Pressure pot equipped with dual regulators, 3/8" I.D. minimum material hose, 0.070" I.D. fluid tip and appropriate air cap.
Airless Spray	<p>Pump Ratio: 30:1 (min.) GPM Output: 3.0 (min.) Material Hose: 3/8" I.D. (min.) Tip Size: 0.017-0.021" Output PSI: 2100-2300 Filter Size: 60 mesh PTFE packings are recommended and available from the pump manufacturer.</p>
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.

APPLICATION CONDITIONS

Condition	Material	Surface	Ambient	Humidity
Minimum	50°F (10°C)	50°F (10°C)	50°F (10°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.	Dry to Handle	Dry to Topcoat	Dry to Touch	Maximum Recoat Time w/ Epoxies
50°F (10°C)	16 Hours	24 Hours	5 Hours	30 Days
60°F (16°C)	12 Hours	16 Hours	4 Hours	30 Days
75°F (24°C)	6 Hours	8 Hours	3 Hours	30 Days
90°F (32°C)	3 Hours	4 Hours	2 Hours	15 Days

These times are based on 50% Relative Humidity and 4.0 mil (100 micron) dry film thickness. Higher film thickness, insufficient ventilation or cooler temperature 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.

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 SDS 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.
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 workers should be required to use nonferrous tools and wear conductive and non-sparking shoes.

PACKAGING, HANDLING & STORAGE

Shelf Life	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.
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Carboguard® 893N

PRODUCT DATA SHEET



PACKAGING, HANDLING & STORAGE

Storage Temperature & Humidity	40° - 110° F (4° - 49°C) 0-90% Relative Humidity
Storage	Store Indoors.
Shipping Weight (Approximate)	2 Gallon Kit - 29 lbs (13 kg) 10 Gallon Kit - 143 lbs (65 kg)
Flash Point (Setaflash)	Carboguard 893N Part A: 61°F (16°C) Carboguard 893N Part B: 59°F (15°C)

WARRANTY

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 to verify correctness before specifying or ordering. No guarantee of accuracy is given or implied. Carboline warrants our products to be free of manufacturing defects in accord with applicable Carboline quality control procedures. THIS WARRANTY IS NOT VALID WHEN THE PRODUCT IS NOT: (1) APPLIED IN ACCORDANCE WITH CARBOLINE'S SPECIFICATIONS, AND/OR (2) PROPERLY STORED, CURED, AND USED UNDER NORMAL OPERATING CONDITIONS. Carboline assumes no responsibility for coverage, performance, injuries, or damages resulting from use of the product. If this product is found not to perform as specified upon inspection by a Carboline representative during the warranty period, Carboline's sole obligation, if any, is to replace the Carboline product(s) proven to be defective or refund the purchase price thereof, at Carboline's sole option. Carboline shall not be liable for any other losses or damages. This warranty excludes (1) labor and costs of labor for the application or removal of any product, and (2) any incidental or consequential damages, whether based on breach of express or implied warranty, negligence, strict liability or any other legal theory. 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. All of the trademarks referenced above are the property of Carboline International Corporation unless otherwise indicated. The whole text of this Product Data Sheet, as well as the documents derived from it, have been written in English, and for legal purposes the English version shall prevail.