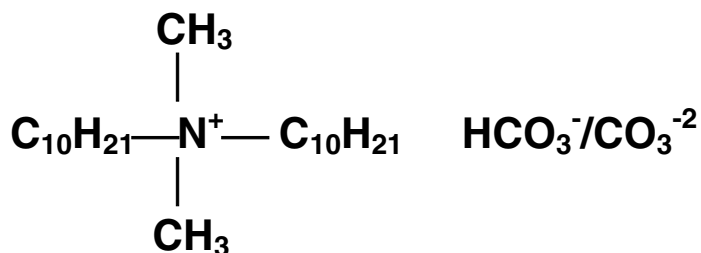


## CARBOSHIELD® 1000



CARBOSHIELD® 1000 is comprised of a blend of didecyl dimethyl ammonium carbonate and didecyl dimethyl ammonium bicarbonate. Unlike a traditional chloride quaternary, this advanced non-chloride quaternary provides excellent corrosion inhibition properties on a wide variety of metal substrates. Its intended uses are as a cationic surfactant for non-EPA registered applications, a thin film forming corrosion inhibitor, or as a wetting/dispersion agent. CARBOSHIELD® 1000 is water miscible and can be emulsified in oil. It is hard water tolerant and requires little or no additional sequestering agents for optimal performance. CARBOSHIELD® 1000 is compatible with typical nonionic surfactants as well as many dyes and fragrances.

### Physical Properties

Appearance at 25°C	Clear to pale yellow liquid, free of foreign matter.
% Quat (MW = 380)	48.5 – 51.5
Free Amine, wt% (MW=311)	≤ 1.5
pH (as is)	9 - 11
Turbidity (NTU) at 25°C NMT	25
Color, Gardner	4
% Halide, NMT	0.03

Analytical methods are available upon request.

### Typical Properties

Viscosity, cps, 21°C	350
Specific Gravity, 25°C	0.96

### Registration

This product is registered under EPA TSCA. It is not EPA FIFRA registered and cannot be used to make claims normally regulated by FIFRA.

The seller makes no warranty, expressed or implied, concerning the accuracy of any results to be obtained from the use of this information and no warranty is expressed or implied concerning the use of these products other than indicated within. The buyer assumes all risks of use and/or handling. No statement is intended or should be construed as a recommendation to infringe any patent

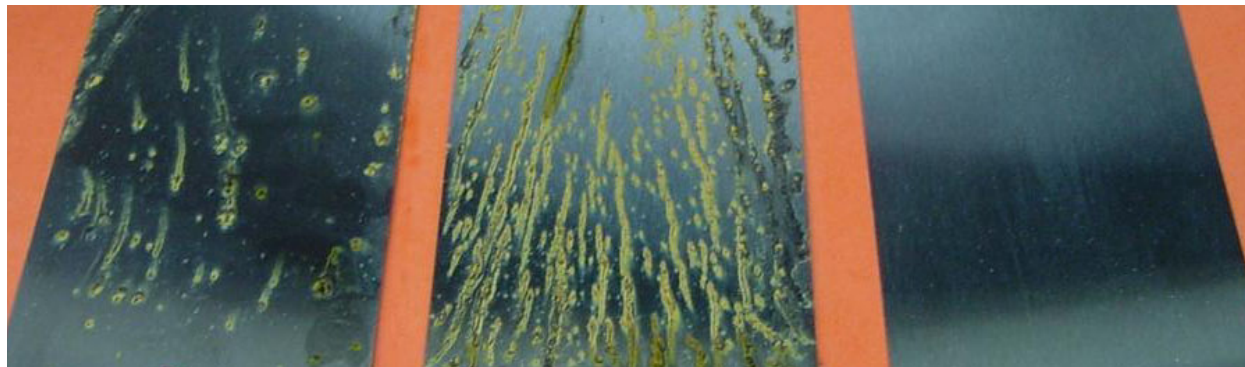
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## Features

CARBOSHIELD® 1000 exhibits excellent corrosion inhibition properties on steel, iron, aluminum, brass, copper and other metals.

**Corrosion Results:** 1010 Steel coupons held in contact with aluminum in de-ionized water are shown below. The results demonstrate the effectiveness of CARBOSHIELD® 1000 against galvanic corrosion.



**DI Water Control  
No Galvanic Contact**

**DI Water Control  
Steel/Aluminum Galvanic  
Contact**

**0.1% CARBOSHIELD® 1000  
Steel/Aluminum Contact**

## Solubility

CARBOSHIELD® 1000 is freely miscible in water, lower alcohols, ketones and glycols.

## Safety and Toxicology

CARBOSHIELD® 1000 is a non sensitizer, non carcinogenic, non mutagenic, and non teratogenic material. It is readily biodegradable and exhibits a pleasant odor.

## Product Packaging

Lonza is pleased to provide the following standard packages:

440 lb. drums

2000 lb. totes

40K, 45K lb. bulk (North America only)

\*Railcar shipments also available

## Storage

Maximum storage temperature 140°F. Keep containers closed when not in use.

For more information on CARBOSHIELD® 1000, please visit our website  
[www.lonzacarboshield.com](http://www.lonzacarboshield.com).