



GeoCHEM
Incorporated

Premium Free Cal & Sodium Displacer

Premium Free Cal & Sodium Displacer is a new and improved formulation of a proven product designed to remedy soils that are irrigated with marginal water and are high in salts and bicarbonates. These soil conditions generally result in poor water infiltration, low nutrient availability and poor turf vigor which prevent turf from responding adequately to "normal" fertilizer applications. **Premium Free Cal & Sodium Displacer** is a patented proprietary technology that features a safe, short chain carbon quaternary of organic carboxylic acid, organic amine, premium soil penetrant, and soil re-wetting technology.

"It is very important to remember that about two or three times a year the soils should be wet sufficiently to flush the mineral salts below the root zones of the plants. In determining how much water to apply it is essential."

From California Turfgrass Culture, July 1961

Mild Acid (pH = 3.5)

Premium Free Cal & Sodium Displacer Recommended Application

Rates:

CURATIVE: Correcting salt impacted soils: 32 - 64 ounces/acre or 1-1.5 oz. per 1000 sq. ft. in 2-4 gallons of water in 2-4 consecutive weekly treatments. **Premium Free Cal & Sodium Displacer** may be tank mixed. Refer to all tank mixed product labels for proper application.

MAINTENANCE: 16 - 32 ounces/acre or 0.5 - 0.75 oz. per 1000 sq. ft. weekly in 2 - 4 gallons of water following curative applications.

If bi-monthly applications are utilized instead of weekly, multiply rate by a factor of 2.2.

INJECTIBLE IRRIGATION TREATMENT: Premium Free Cal & Sodium Displacer can be used in all standard injection equipment used by turf managers.

Add **Premium Free Cal & Sodium Displacer** to liquid fertilizer bulk tank at a rate based on tank size.

500 gallon tank - add 1 - 2 gallons for bi-monthly supply

1000 gallon tank - add 2 - 4 gallons for monthly supply.

- Use high rate for high salt impacted areas
- Always test compatibility with a jar test



Premium Free Cal & Sodium Displacer's reaction with Lime (CaCO_3) or Gypsum (CaSO_4), that are generally found in all soils, are the sources of free CALCIUM (Ca^{++}) for use as a key nutrient and to displace Sodium (Na^+) and the other salts that are attached to soil exchange sites. This process is the key to "flushing" salts through the soil profile and out of the plant root zone. Flushing salts opens soils and allows for water and oxygen penetration and improvement of nutrient availability.

After an application of **Premium Free Cal & Sodium Displacer**, you can expect to see higher water infiltration rates, lower toxic salt concentrations, lower bicarbonate levels and more vigorous turf.

A good rain will usually relieve the soil of the built up bicarbonates, but a good rain doesn't always happen. With the help of **Premium Free Cal & Sodium Displacer** the Superintendent or applicator is able to get a good flushing of the soil profile with a fraction of the irrigation water required to do a normal flush.



Sales & Procurement Center - Phone No. 907.562.5755 ~ Fax No. 206.219.3740

WA State Sales - Phone No. 206.774.8777 ~ Toll Free: 800.490.5320

GeoCHEM Website: <http://www.geocheminc.com> Contact Us: <http://www.geocheminc.com/contactus.php>



Premium Free Cal and Sodium Displacer

Non -Plant Food Ingredients

Proprietary blend of short chain carbon quaternary of organic carboxylic acid, organic amine, soil penetrants and re-wetting technology.....45%
Inert Ingredients.....55%

<i>Premium Free Cal & Sodium Displacer Rates</i>	Acreage Application Guidelines	
	Injectable or Boomspray	Fertigation
Maintenance	16oz/ acre	2-4ppm
Curative Rate	20oz/ acre	4ppm
Initial Rate	24/oz acre	4ppm
Season ending Rate	24oz/acre	4-6ppm
Heavy calcareous soils and salt affected sites	28oz/ acre	6-8ppm

Contents: 16 oz



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GENERAL INFORMATION:

Premium Free Cal & Sodium Displacer is designed to remedy soils that are high in salts and bicarbonates and/or are irrigated with marginal water. These soil conditions generally result in poor water infiltration, low nutrient availability and poor turf vigor which prevent turf from responding adequately, resulting in increased fertilizer demand.

Applying **Premium Free Cal & Sodium Displacer** as part of an overall salts management program reduces bonds of calcium carbonates and calcium phosphates so that free CALCIUM (Ca++) displaces Sodium (Na+) and other salts on soil exchange sites. **Premium Free Cal & Sodium Displacer** dissociates chemical bonds and frees CALCIUM in water and soils under hydration in order to "**flush**" soils for removing any build-up of salts and to re-charge gravitational and capillary water in most soil types.

Water infiltration in most soils will improve and solubility of minerals and nutrients will increase. Increased CALCIUM availability will also buffer soil pH. Soil Nutrient Base Saturation ratios will become more balanced and anions such as sulfates, will stabilize.

Premium Free Cal & Sodium Displacer is a soil amendment and it does not contain any plant nutrients nor are there any phytotoxic affects on plants.

Sprayable: All conventional spray equipment can be used to apply **Premium Free Cal & Sodium Displacer** over the top of turf.

Curative: Correcting salt impacted soils: 20 ounces/acre or 4ppm in 2-4 gallons of water as a carrier for boom spray applications. **Premium Free Cal & Sodium Displacer** may be tank mixed. Refer to all tank mixed product labels for proper application Jar test for compatibility is recommended.

Fertigation with fertilizers:

Add **Premium Free Cal & Sodium Displacer** to liquid fertilizer bulk tank at a rate based on tank size:

500 Gal tank add 1-2 gallons

1000 Gal tank add 2-4 gallons

*Use high rate for high salt impacted areas *Always Test compatibility with a jar test.

Warranty: Seller warrants that this product conforms to its chemical description and is reasonably fit for the purpose stated on the label when used in accordance with the directions under normal conditions of use; but neither this product nor any other warranty of merchantability or fitness of a particular product expressed or implied, extends to the use of this product contrary to label conditions, or under conditions not reasonably foreseeable to the seller and the buyer assumes the risk of any such risk.