

GROW MORE

PRODUCT INFORMATION

SALT BREAKTHRU

Acidify Alkaline Soil - Leach Sodium Salt



GUARANTEED ANALYSIS

Total Nitrogen (N) 15.0%
 Sulfur (S) 12.0%

Derived from carbamide dihydrogensulfate.

Acidifying action of 1 gallon (3.785 liters) SALT BREAKTHRU equals to approx.:

3.7 lbs. Soil Sulfur
 10.4 lbs. Sulfuric Acid
 18.2 lbs. Gypsum
 29.5 lbs. Iron Sulfate, Heptahydrate
 13.9 lbs. Ammonium Thiosulfate

SPECIAL FEATURES

- Alleviates compaction, dry spots & puddling
- Reduces Sodium levels
- Lowers soil alkalinity (pH)
- Better rooting
- Improved wetting
- Improves soil CEC
- Reduces soil salinity
- Soil anticrustant

SALT BREAKTHRU has been oxidized and therefore goes to work immediately.

SALT BREAKTHRU reacts in the soil with calcium which exchanges with sodium to leach it from the exchange site.

SALT BREAKTHRU is biodegradable and can be used on any alkaline soil. Regular use will promote deeper root system.

DIRECTIONS

Recommended to be used as a soil drench.

Use SALT BREAKTHRU by itself. Do not mix with other chemicals or fertilizers. Apply at the rate of 5 gallons per acre (45.4 liters per hectare). For small areas, dilute 1 pint (454 cc per 378 liters of water) per 100 gallons of water. Apply 100 gallons per 1,000 sq. ft. (93 sq. meter) to wet soil to a depth of 1/4" or more (0.63 cm.). Do not allow SALT BREAKTHRU to remain on foliage. Flush off with fresh water.

FOR INJECTION SYSTEMS OR FERTIGATION: For most situations, control can be achieved with maintenance application. Use 5 gallons per acre in irrigation water. This rate can lower soil pH approximately 1/2 pH point (pH 8 to 7.5), depending on bicarbonate content of soil. Apply every 4 to 6 weeks or as needed.

A rate of 4 ozs. (approximately 14 ppm) of SALT BREAKTHRU per 1,000 gallons of water (113cc in 3,785 liters) may be used as a starting point. Thereafter, the rate can be adjusted upward or downward depending on desired results. For more precise control, a soil test to determine water quality is recommended.

Quantities of SALT BREAKTHRU required to neutralize 90% of bicarbonate in irrigation water : ppm = Mg/L

HCO ₃ CONTENT WATER	SALT BREAKTHRU REQUIRED	PER ACRE FOOT 325,851 GALS. (1.23 Million Liters Water)
50 ppm	37 ppm	195 lbs. / 15.4 gals. / 58.20 liters
100 ppm	74 ppm	389 lbs. / 31.0 gals. / 117.33 liters
200 ppm	148 ppm	779 lbs. / 61.5 gals. / 232.77 liters
400 ppm	296 ppm	1557 lbs. / 123.0 gals. / 465.50 liters

For calculation purposes to determine final ppm, use 49% total active ingredients in SALT BREAKTHRU.

Please contact consultants at Grow More, Inc. for additional recommendations.

PACKING : 5-gallon drum
 30-gallon drum or metric equivalent
 55-gallon drum

WEIGHT : 12.65 lbs./gallon (1.51 kgs/liter)

GROW MORE

15600 New Century Drive, Gardena, Ca 90248
 Telephone: (310) 515-1700 • FAX: (310) 515-4937

SALT BREAKTHRU - LEACHES SODIUM SALT

Sodiatic (alkali) soil contains enough sodium absorbed on the clay particles to interfere with plant growth. Salinity hazard is the possible accumulation of soluble salts in the root zone.

With reasonable irrigation practices, there should be no salinity problem with irrigation water, with E.C. of less than 0.75 ds/m (decisiemens per meter). E.C. 0.75-3.0 ds/m-increasing problems. E.C. 3.0 or greater - can cause severe problems.

As the proportion of sodium absorbed on the clay increases, the soil tends to disperse or "seal up" which causes reduced rates of water penetration.

Reducing sodium related permeability problem can be accomplished by:

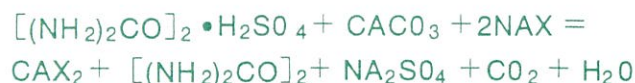
- 1) Applying source of soluble calcium (gypsum) to the soil or irrigation water.
- 2) Reducing the pH and bicarbonate (HCO_3) content of irrigation water by adding SALT BREAKTHRU

Evidence suggests that all irrigation water should have a minimum calcium content of 20 ppm to prevent dispersion of the soil.

SALT BREAKTHRU has the ability to replace exchangeable sodium in the soil or increase calcium content in irrigation water or soil solution provided there is available carbonate, bicarbonate (HCO_3) or calcium

SALT BREAKTHRU when diluted in water may be express as $[(\text{NH}_2)_2\text{CO}]_2\text{H}_2\text{SO}_4$

- * One mole of H_2SO_4 can be assumed to result in replacement of two moles of exchangeable sodium by calcium.
- * One mole of $[(\text{NH}_2)_2\text{CO}]_2$ can be assumed to result in replacement of one mole of exchangeable sodium by calcium.
- * Chemical reaction that occurs in soil:



<u>Sodium</u>	<u>Amount of SALT BREAKTHRU</u>	<u>Area</u>
	1,090 lbs. (86.16 gals.) 495 kgs. (326.1 liter)	1 acre (4047 sq. mt.) of soil.
	Amount of SALT BREAKTHRU required to replace 1 meg/100 grms. (230 ppm) exchangeable sodium in 6 inches (15.2 cms.) of soil.	
<u>Calcium</u>	<u>Amount of SALT BREAKTHRU</u>	<u>Area</u>
	148 lbs. (11.7 gals.) 76.2 kgs. (44.2 liters)	1 acre ft. water (325,811 gals.). 1,233,194 liters of water.
	Amount of SALT BREAKTHRU required to increase calcium content in one acre foot of water to 1 meg/liter (200 ppm).	