EZYFLOW® NANO

# GYPSUM

LIQUID SUSPENSION

## EZYFLOW® NANO GYPSUM

A liquid suspension of technical grade gypsum dihydrate, containing calcium and sulphate sulphur applied to improve soil structure by reducing sodium build up and increasing calcium levels in the soil. Formulated with micronised particles, it can be used as a foliar, or in fertigation and in-furrow applications.

### Features

- Formulated with micronised particles
- Highly concentrated calcium solution containing trace elements
- Formulated with suspension agents

### Benefits

- Source of calcium and sulphate sulphur
- Helps reduce sodium levels in high sodic soils
- Free-flowing liquid formulation with minimal amounts of residue left in the drum
- Formulated for use as foliar, fertigation and in-furrow application
- In the spray tank it disperses quickly and stays in suspension under agitation
- Low use rates compared to lower analysis formulations

### Other

**Application rate:** See product label

**Specific Gravity:** ~1.50

**pH:** 10

**Colour:** Cream

**Compatibility:** Caution: Not compatible with Ammonium Sulphate. Seek professional advice prior to tank mixing with other nutritionals or pesticides

**Tank Mixing:** Follow guidelines for tank mixing order. Ensure adequate agitation into a solution prior to use.

**Storage:** Keep sealed in original container. Store in frost-free, dry conditions out of direct sunlight, above 5°C and below 30°C

**Contains (w/v)%:** Gypsum dihydrate; Calcium (Ca) 16% and sulphate sulphur ($SO_4$) 13%

### The Role of Gypsum

Gypsum can help create favorable soil conditions by lowering electrical conductivity, as a high electrical conductivity value of soil is undesired for the crop growth. High electrical conductivity of soil can be due to fertiliser application as well as weathering of soil minerals. Gypsum, being soluble, results in proper buffered solute concentatration (electrical conductivity) in soil to maintain soil in a flocculated state.

Calcium is essential to the biochemical mechanisms by which most plants nutrients are absorbed by roots. Without adequate calcium, uptake mechanisms would fail. In soils with unfavorable calcium magnesium ratios, such as serpentine soils, Gypsum can create a more favorable ratio.

# Tech Notes

## EzyFlow Nano Gypsum Effectively Displaces Sodium in Irrigated Tree Crops
Western Australia (2015)

In some irrigation regions of Australia there are high levels of sodium in the soil and irrigation water. Sodium is destructive to plant health and fruit quality. Sodium is an alkalising cation; it gives a soil pH increase which is undesirable.

Excess sodium can lead to poor soil structure; sodium ions on clay particles cause the soil particles to deflocculate or disperse resulting in drainage issues over time. Soils can crust and water intake is poor; often irrigated fields tend to pool and it can take a long time for the water to infiltrate the soil.

EzyFlow Nano Gypsum is micronised pure gypsum di-hydrate, not calcium sulphate anhydrous. EzyFlow Nano Gypsum is free of sodium and has an average particle size of 0.95 microns and specific surface area of 7490m$^2$/kg.

Two soils of different CEC (sand and clay) with a known sodium content and pH were selected. EzyFlow Nano Gypsum was applied with the irrigation (15mm/ ha/ day) water to strip out sodium in the soil profile.

| Day | Sand pH $H_2O$ | Loam/ Clay pH $H_2O$ | $Na^+$ Sand ppm 150mm | $Na^+$ Loam/ Clay ppm 150mm CEC 13 | $Na^+$ Control sand ppm 150mm | $Na^+$ Loam/ Clay Control ppm 150mm | Cumulative mm irrigation | Amount EzyFlow Gypsum applied/ ha |
|---|---|---|---|---|---|---|---|---|
| 1 | 8.6 | 8.9 | 395 | 573 | 395 | 573 | 15 | 20 |
| 2 | 8.4 | 8.9 | 357 | 553 | 379 | 565 | 30 | 0 |
| 3 | 7.6 | 8.7 | 349 | 475 | 371 | 548 | 45 | 20 |
| 4 | 7.6 | 8.4 | 304 | 440 | 356 | 529 | 60 | 0 |
| 5 | 7.4 | 8.3 | 228 | 422 | 346 | 514 | 75 | 20 |
| 6 | 7.3 | 7.9 | 219 | 404 | 338 | 489 | 90 | 0 |
| 7 | 6.7 | 7.7 | 189 | 374 | 303 | 476 | 105 | 20 |
| 8 | 6.5 | 7.5 | 163 | 332 | 288 | 455 | 120 | 0 |
| 9 | 6.2 | 7.4 | 134 | 293 | 272 | 443 | 135 | 20 |
| 10 | 6.1 | 7.3 | 112 | 269 | 264 | 430 | 150 | 0 |
| 11 | 6.0 | 6.1 | 96 | 243 | 248 | 419 | 165 | 20 |
| 12 | 6.0 | 6.9 | 78 | 216 | 231 | 398 | 180 | 0 |
| 13 | 5.9 | 6.6 | 65 | 183 | 215 | 381 | 195 | 20 |
| 14 | 5.8 | 6.5 | 48 | 156 | 201 | 374 | 210 | 0 |

SODIUM DISPLACEMENT TRIAL - WA (2015)

From the above table, it can be shown that micronised EzyFlow Nano Gypsum worked rapidly to leach the sodium out of the soil profile. This can be attributed to the rapid reaction of the very fine gypsum (<1 micron) with the sodium carbonate in the soil to form sodium sulphate. Further; there was some natural leaching of the sodium due to the irrigation water which was free of sodium. This was nowhere as rapid as the micronised gypsum.

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