



## Surfactants and adjuvants



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## ABOUT CHEMO INTERNATIONAL

Since 1960 CHEMO INTERNATIONAL has been providing supply solutions and technical support to customers in various industries, such as coatings manufacturing, specialized agricultural products, personal care products manufacturing and other domestic and specialized industrial products. We are proud to be the oldest and most complete chemical export company of our type. The success of Chemo can be traced directly to the quality of our management and the experience and dedication of our staff over the last half century.

CHEMO INTERNATIONAL is now a leading distributor and formulator of specialty high-tech chemicals for agriculture. Specializing in providing a wide range of product solutions for all major crops in the Americas, CHEMO AGRICULTURE has been working with our agricultural clients to increase production yields, reduce production costs and provide environmentally sound agricultural solutions.

At CHEMO AGRICULTURE we have worked to develop customized specialized products for the main crops in North America, Central America, the Caribbean and South America, which specialize in nutrition, protection and soil improvement programs in all crop groups. Whatever your needs, problems or improvements, CHEMO AGRICULTURE is dedicated to providing professional agricultural consulting services through our technical support staff, with years of experience in various crops to improve the productivity and profitability of our customers.



## SURFACTANTS

### QUADRANT

QUADRANT is a soil surfactant designed for injection in irrigation systems, for short term moisture control. Quadrant is a blend of 4 polymers in a precise ratio to encourage uniform wetting, increase moisture penetration and improve moisture retention for approximately two weeks. The quadrant will increase moisture delivery to the root system, reduce localized dry spots and increase irrigation efficiency.

**Typical application:** 0.03% -0.06% of total mixture,

0.3-0.6 liters / 100 liters, 1-2 qt / 100 gal.    **Duration:** 10-14 days

**Characteristics and benefits:** mixture of four polymers with 30% of total active ingredients designed to allow penetration and uniform hydration, improve rewet and moisture retention.

### Inv-AID Pelletized Wetting Agent

Its a non-foaming pelletized soil surfactant with 100% active ingredient designed for spot treatment of hydrophobic areas and “hot spots” on greens. Designed for applications in standard hand-watering guns, Inv-AID is safe to apply on greens, will not crumble during use, and will easily treat two greens per pellet.

**Typical rate:** One pellet will treat at least two greens    **Strategy of use:** Spot Treatment

**Features and Benefits:** Low foaming, 100% active ingredient formula with excellent pellet integrity, a high degree of turf safety, and superior wetting properties.

### Hydra

Hydra is a three-polymer blend soil surfactant designed to maintain proper moisture conditions in the soil and to prevent the development of LDS and hydrophobic conditions. When used as part of a regular maintenance program for tees and greens, Hydra helps ensure quality playing conditions, balanced soil moisture, rapid re-wetting, and excellent turf safety.

**Typical rate:** 18 kilograms / Hectare, 6 oz / 1,000 ft<sup>2</sup>

**Strategy of use:** Preventative / Maintenance    **Longevity:** 30 days

**Features and Benefits:** Three polymer blend with 100% total active ingredients designed to enhance penetration and uniform hydration, improve rewetting, and moisture holding.

### Supreme Plus 80-20, Supreme Plus 90-10

Supreme Plus surfactants are designed for use with pesticides to enhance wetting and coverage. Available in both 80% and 90% active ingredient concentrations, both Supreme Plus formulations contain surfactant as well as humectant chemistries. This unique combination enhances pesticide coverage while at the same time enhancing uptake of the pesticide by utilizing available moisture.

**Typical rate:** 1-4 pt / 100 gal, 0.1-0.5 liter / 100 liter

**Strategy of use:** Pesticide Surfactant

**Features and Benefits:** Combination of both surfactant and humectant technologies to help enhance coverage and uptake of pesticides.

### TRIAD

Triad is a blend of three high-performance branched polymers designed for unmatched soil surfactant longevity. This unique chemistry is extremely safe for applications on cool and warm season turf. Triad is perfect for fairways and areas that have limited access where turf managers would prefer to make only one or two applications a year. Triad delivers uniform hydration, penetration, and rewetting with extremely low risk of phytotoxicity.

**Typical rate:** 8 oz / 1,000 ft<sup>2</sup> (two applications), 24 kilograms / 1 Hectare (two applications)

**Strategy of use:** Long Term Preventative    **Longevity:** 90-120 days

**Features and Benefits:** 100% active ingredient designed for long-term uniform hydration, rapid re-wetting, and moisture penetration without risk of phytotoxicity or spongy turf after application.

### TYPHOON

Typhoon is a 100% active ingredient product formulated to deliver uniform hydration, root zone moisture retention, and rapid rewetting, yet delivering a firm, dry playing surface. This is a premium product for turfgrass managers who want a very high performance

putting surface. Typhoon is formulated with capped triblock polymers as well as penetrating agents to deliver ultimate moisture management while moving excess moisture down.

**Typical rate:** 6 oz / 1,000 ft<sup>2</sup>, 18 kilograms / hectare

**Strategy of use:** High Performance Preventative

**Longevity:** 30 days

**Features and Benefits:** Two tri-block polymer blend to deliver a superior playing surface with rapid re-wetting and uniform moisture characteristics.

## ERADICATE

Eradicate is a blend of soil wetting agents combined with solvent technologies intended to treat existing problems of localized dry spot and hydrophobic soils as a corrective strategy. While the solvents remove organic compounds and waxy coatings on soil particles that are responsible for LDS, the surfactant helps restore normal hydration characteristics to the soil. As opposed to a short-term treatment strategy that addresses only the symptoms of hydrophobic areas and LDS, Eradicate actually works to correct the causal effects of LDS.

**Typical rate:** 6 oz / 1,000 ft<sup>2</sup>, 18 kilograms / 1 Hectare

**Strategy of use:** Problem Areas Corrective **Longevity:** 30 days

**Features and Benefits:** Organic solvents combined with soil surfactants helps to remove hydrophobic soil coatings while restoring normal hydration characteristics in problematic areas and localized dry spots.



## FOLIAR ADJUVANTS



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## SIL-COAT

SIL-COAT is a non-ionic spray adjuvant containing organosilicone, methylated seed oils and emulsifiers. Designed to maximize the propagation and the humidification, as well as to improve deposition and penetration of the chemical application. DOUBLE HEADER is a particularly good choice for use with biological and biorational pesticides, especially those containing Neem Oil / Azadirachtin or Bacillus Thurengensis.

**Aplicación típica:** 0.25-1 litro / 100 litros, 1-2 pt / 100 gal

**Features and Benefits:** Improved spreading, wetting and uniformity of the spray application.

## SIL-TEX

SIL-Tex is a blend of organosilicone-based spreaders and latex-based stickers. This combination of high-performance chemistries ensures unmatched spreading and leaf coverage combined with superior stick and rain-fastness. SIL-Tex can enhance pesticide performance by ensuring droplet retention and reduce pesticide wash off in both low and high volume spray applications.

**Typical rate:** 8-32 oz / 100 gal., 0.06-0.25 litros / 100 litros

**Strategy of use:** Spreader & Sticker for Systemic Chemistries

**Features and Benefits:** Superior spreading and sticking, rainfast in 30 minutes, enhances coverage and droplet retention of pesticides.

## ACCESS

**Access** is a blend of adjuvant technologies designed to be used with systemic fungicides, PGR's, and insecticides. It is a non-ionic foliar adjuvant that serves as an activator, penetrant, antidrift, and deposition aid product all in one. Access will also safely buffer tank pH to help prevent alkaline hydrolysis.

**Typical rate:** 1-2 pt / 100 gal. , 0.3-0.6 liters / 100 liters

**Strategy of use:** Foliar Adjuvant for Systemic Chemistries

**Features and Benefits:** A blend of lecithin and penetrating agents designed to enhance the efficacy and on-target application of systemic chemistries while buffering tank mix pH to prevent alkaline hydrolysis.

## SPIKER

Spiker is designed for use with pesticides when the addition of a non-ionic surfactant is recommended. Spiker is a proprietary blend of methylated seed oil, lecithin, emulsifiers and surfactants. Spiker has a neutral pH and contains a proprietary elicitor of S.A.R. (Systemic Acquired Resistance) which works together with systemic chemistries to enhance plant protection.

**Typical rate:** 1-4 pt / 100 gal. / 0.3-1.2 liters / 100 liters

**Strategy of use:** Foliar Adjuvant and Synergist for Systemic Chemistries

**Features and Benefits:** Increases adhesion and spreading of liquid sprays. Enhances uptake and efficiency of systemic plant protection products. SAR Elicitor enhances plant defense.

## AMS-DC

AMS-DC is an ammonium sulfate based drift control agent. Containing a polymer-based drift control agent, AMS-DC will reduce spray tank pH and combat hard water situations, while helping to ensure on-target deposition of pesticides.

**Typical rate:** 1-2.5 gal / 100 gal., 1-2.5 litros/ 100 litros

**Strategy of use:** Drift Control, Tank Buffer

**Features and Benefits:** Reduce the potential for drift and off-target pesticide application while buffering spray tank pH and reducing alkaline hydrolysis.

## F-COAT

F-COAT is a mixture of paraffined mineral oil for agricultural use for use with insecticides, herbicides, fungicides, maturing and other products, for use as an adjuvant for better application efficiency and penetration to be emulsified in mixtures for applications. Improvement of deposition, redistribution, residuality and absorption of products in emulsified mixture. F-COAT is completely compatible with mixtures of systemic applications of fungicides for control of black sigatoka in bananas and plantains. Proven as an excellent and economical alternative as adjuvant for fungicide and plagicide applications.

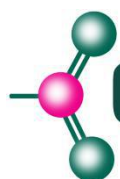
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Typical application: 1-4 liters / 100 liters

**Characteristics and benefits:** Reduce the application potential of drift and out-of-target pesticides by improving penetration.



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