

CUSTOM AGRONOMICS

FOLIAR NUTRITION, BIOSTIMULANTS, SPECIALTY CHEMICALS, WETTING AGENTS & SURFACTANTS, CONTRACT PACKAGING, AND CONTRACT FORMULATING

N-PHLUENCE SOIL & WATER TECHNOLOGY

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N-pHluence Soil & Water Technology

N-pHluence 28 - *Stabilized Nitrogen plus 9% Sulfur*

N-pHluence 28 (28-0-0-9S) is a stabilized nitrogen, low pH, urea-sulfuric reaction product, produced in our state-of-the-art, controlled-reaction facility. **N-pHluence 28** contains two carbon bonds, oxygen, hydrogen and 27% sulfuric acid equivalent, yielding a highly stable, acidic nitrogen product, plus available sulfur. **N-pHluence 28** performs in a wider range of soil and water pH conditions compared to most other nitrogen products and does not volatilize, due to its stable molecular structure.

N-pHluence 28 is a superior form of nitrogen for fertigation and soil applications. It has synergistic impacts with other applied fertilizers and residual soil nutrients due to its capability to liberate nutrients bound to the soil colloid. The acidity in **N-pHluence 28** is stable in irrigation water and releases in the soil solution to mitigate impacts of alkalinity, bi-carbonate and sodium.

N-pHluence 28 contains an optimal ratio of Nitrogen, Carbon, Hydrogen, Oxygen and Sulfur. The molecule allows for an efficient conversion of N to the ammonium form $NH_{_{+4}}$, without volatilization. Ammonium metabolism requires oxygen, which **N-pHluence 28** contains, to fuel the process. Plants favor root uptake of $NH_{_{4+}}$ vs. $NO_{_3}$ as less energy is consumed. $NO_{_3}$ must be transported upward to the leaves before subsequent conversion to ammonium, which is a net energy consumption. **N-pHluence 28** is highly efficient as it optimizes these energy consuming processes by providing $NH_{_{4+}}$ and O_2 , which are required during assimilation of N through the root system.

The metabolism of Nitrate (NO₃) by plants releases bicarbonate (HCO₃) as a root exudate, which <u>increases pH around roots</u>. Metabolism of Ammonium (NH₄₊), supplied by **N-pHluence 28**, releases hydrogen ions (H₁) which <u>reduces pH around the root system</u>. Under most conditions, specifically elevated pH and bicarbonate, **N-pHluence 28** will enhance both nitrogen and cation uptake (Ca²⁺, Mg²⁺, K⁺, Fe³⁺, Mn²⁺) via synergistic delivery of Nitrogen along with Carbon, Oxygen, Sulfur and Hydrogen. **N-pHluence 28** is an efficient, complete and self-regulating molecule. Simple mixtures of Urea and Sulfur will not deliver the same performance as they do not contain the optimal, synergistic ratios of the key elements. Our precisely controlled reaction formulation, producing **N-pHluence 28**, delivers the optimal combination.

N-pHluence 28 further enhances nutrient availability by positively impacting oxidation reduction potential. The beneficial oxidative (ORP/REDOX) properties of **N-pHluence 28** work to transform minerals into their plant available forms.

A balanced Nitrogen program utilizing Urea, Ammoniacal and Nitrate forms best suited for your specific crop and application is advised. Always consult your soil tests when programming your nitrogen budget.

The chemical structure of N-pHluence 28 is unique, highly stable and efficient.

N-pHluence 28 provides the following features and benefits.

- 28% Stabilized Urea Nitrogen
- 27% Sulfuric Acid Equivalent to reduce bicarbonates & sodium
- Carbon to optimize C:N ratio
- Hydrogen to reduce alkalinity
- Oxygen to enhance aerobic soil functions and drive ammonium metabolism
- 9% Sulfur for plant uptake
- · ORP activity driving redox and converting minerals into plant available forms
- · Liberates minerals bound in the soil profile

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N-pHluence 15 - H₂O Treatment

N-pHluence 15 (15-0-0 16%S) is a urea-sulfuric reaction product, produced in our state-of-the-art, controlled-reaction facility. **N-pHluence 15** is designed as a spray equipment cleaner, water treatment product and irrigation system cleaner. It is also a supplemental supply of urea-based nitrogen and sulfur. **N-pHluence 15** contains 15% urea nitrogen and 16% sulfur while providing a safer alternative to pure acid products.

- Neutralize the negative effects of high bicarbonate and carbonate levels in irrigation water and the soil solution
- Lower pH of irrigation water and soil solution
- Maintain the solubility of Ca and Mg in irrigation and soil water
- Dissolve calcium carbonate and magnesium carbonate salts on the surface (crusts) and in the soil profile
- · Improve the ability of soil-applied Ca-based amendments to produce soluble Ca
- Flocculate clay particles
- · Improve percolation and infiltration characteristics of the soil profile
- · Clean and remediate clogged irrigation lines and emitters

Poor quality irrigation water? Poor cation exchange? Not getting efficiency out of Mg and Ca amendments? Reduced porosity and drainage? High sodium and / or bicarbonates? **N-pHluence IS YOUR ANSWER!**

In many cases, soil issues start with irrigation water. **N-pHluence** can be used as a key tool to restore the ratio of Ca, Mg, and Na in the soil. Excess sodium can degrade the soil structure and displace other key elements from the soil particle. **N-pHluence** will assist in flushing out undesirable Na and will "burn off" bicarbonates.

N-pHluence (H⁺) + HCO₃ - (Carbonate) \longrightarrow CO₂ + H₂O



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Scan this code to open our soil & water pH management tool to calculate use rates for all of our soil & tank mix pH buffer products http://kaywa.me/ivv61

