

N-PHURIC 15/49 PHYSICAL AND CHEMICAL PROPERTIES

Common Name: Monocarbamide
dihydrogen
sulfate (MCDS)
solution

DOT Proper Shipping
Name: Corrosive Liquid,
N.O.S. (contains
monocarbamide
dihydrogen sulfate)

DOT Hazard Class¹: 8
Packing Group: III

Analysis:	Guarantee (Wt.%):
Total Nitrogen:	15.0
Water soluble organic nitrogen:	15.0
Each gallon contains 1.89 lbs. nitrogen	

Equivalent Sulfuric Acid:	49.00
Sulfuric from sulfuric acid equivalent:	16.00
Each gallon contains 6.19 lbs. of Sulfuric acid equivalent from MCDS	

Physical Properties:

Crystallization Temperature ² :	42±3°F
Viscosity at 68°F:	110 centipoise
Specific Gravity at 68°F:	1.52
Pounds per Gallon at 68°F:	12.7
Gallons per Ton:	158

¹ Not regulated when shipped via ground
transportation (see 49 CFR 173.154(d))

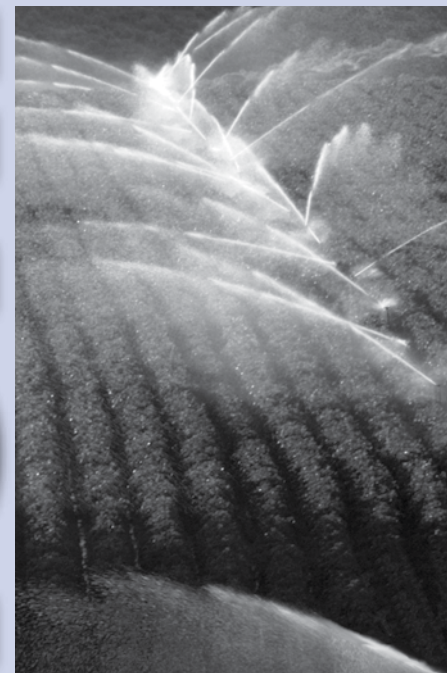
² Product readily supercools and may not
immediately crystallize at lower temperatures



IND/AG

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N-PHURIC



**WATER
TREATMENT
AMENDMENT**

N-PHURIC
ONE CHOICE. MANY SOLUTIONS.™

ingredients for growth

WHAT IS N-pPHURIC®?

N-pHURIC is manufactured by reacting urea and sulfuric acid in a carefully, patented process. This quality control is essential to assure that N-pHURIC retains all the acidity with no phytotoxic contaminants. Although all of the acidity is retained, N-pHURIC is less corrosive and much safer to handle than sulfuric acid.

WHY IS A WATER AMENDMENT SUCH AS N-pHURIC NEEDED?

Virtually all irrigation water contains some amount of dissolved salts. Many are beneficial, such as calcium, magnesium, sulfate and nitrate. Others can be harmful to both the growing crop and the soil. These include boron, sodium, chloride and bicarbonate which must be carefully managed and minimized if possible. Irrigation water containing these salts can cause phytotoxicity to the crop being grown and can cause destruction of the soil structure.

All salts in irrigation water can form insoluble precipitates that tie up nutrients and harm irrigation systems.

All irrigation water

contains some salts.

WHAT ARE THE CRITICAL FACTORS IN IRRIGATION WATER QUALITY?

Over the long term, there are three important factors that must be considered if the irrigation water has moderate to high sodium or bicarbonate content:

- Sodium and bicarbonate effects on the soil structure that will impair water penetration.

- Increased soil pH that will reduce phosphorous and micronutrient availability.
- Irrigation system efficiency is affected by the formation of insoluble precipitates.

WHY IS N-pHURIC RECOMMENDED AS A WATER AMENDMENT?

Acid reacts with the carbonate and bicarbonate compounds found in irrigation water and reduces or eliminates these compounds. Acid addition lowers the water pH and increases the availability of phosphorus and micronutrients.

WHAT ARE THE MAIN BENEFITS OF N-pHURIC?

1. Improves efficiency of low volume irrigation systems by removing mineral and organic deposits that clog emitters.
2. Improves performance of chlorination materials by destroying organic matter following treatment.
3. Reduces carbonate and bicarbonate before they can react with calcium and cause system plugging, poor water penetration and poor soil structure.
4. Acidulates irrigation water, producing soluble calcium and improving soil structure and water penetration, and correcting alkali-induced nutritional problems.
5. The three formulations of N-pHURIC 10/55, 15/49 and 28/27 provide available nitrogen and sulfur while removing harmful elements from irrigation water. N-pHURIC can be combined with phosphorus sources to create

pHos-pHuric (ex. 7.5-26-9-8S, see manual for mixing instructions), another excellent product to amend your water and provide highly available nutrition.

WHY IS AMENDING IRRIGATION WATER SO IMPORTANT?

Water is the single largest component added to agricultural soils (3 acre-feet = 4071 tons). Soils will eventually take on the characteristics of the irrigation water; poor quality water will lead to poor quality soils. High bicarbonate water removes calcium from the soil colloid, destroying soil structure and reducing water infiltration rates. Dropping the pH of irrigation water to 6.5 can remove up to 50% of the bicarbonate, dropping the pH lower will remove even more. To amend your soil you must first improve the quality of your water.

Storage, handling, application and irrigation equipment can be damaged by N-pHURIC if it is not constructed of the proper material. Consult the N-pHURIC reference manual or your N-pHURIC dealer before applying N-pHURIC.

