



Tessenderlo
KERLEY
The Specialty Liquid Fertilizer People™

firstTurf
LIQUID FERTILIZERS®

N-SURE®-KS 15-0-12

A Slow Release Nitrogen Fertilizer Solution with Potassium and Sulfur for Feeding Turf Grasses, Trees, and Ornamentals For Professional Use

N-SURE-KS NITROGEN, POTASSIUM AND SULFUR FERTILIZER SOLUTION is a clear liquid containing the patented nitrogen compound *triazone* and KTS®, the clearly superior potassium and sulfur fertilizer solution.

Triazone nitrogen means increased turf safety, increased nitrogen absorption, translocation and remobilization when used on turf grasses and in feeding programs for trees and ornamentals.

KTS is a clear chlorine free, high analysis safe and efficient source of potassium and thiosulfate sulfur (8%).

N-SURE-KS contains 40% slow-release nitrogen (SRN), potassium and thiosulfate sulfur all in a clear solution.

N-SURE-KS contains 1.7 pounds of N, 1.4 pounds of K₂O and 0.9 pounds of sulfur per gallon.

KEEP OUT OF REACH OF CHILDREN

CAUTION — MAY CAUSE IRRITATION

PRECAUTIONARY STATEMENTS

Avoid prolonged or repeated contact with eyes, skin and clothing. Chemical goggles or a full face shield should be worn. To protect skin wear appropriate protective equipment, such as rubber or plastic aprons, rubber gloves and boots. Avoid breathing mist or vapor. Keep containers closed. Wash thoroughly after handling. May cause gastrointestinal distress if swallowed.

FIRST AID: In case of contact with eyes, immediately flush eyes with water for at least 15 minutes. Seek immediate medical attention if irritation occurs. In case of skin contact, flush skin with water. If irritation occurs, seek immediate medical attention. Remove and wash contaminated clothing before reuse. If swallowed, give large amounts of water and induce vomiting by touching back of throat with finger unless unconscious. Seek immediate medical attention.

HANDLING AND STORAGE: Minimize skin exposure. Store mini-bulks and smaller containers out of the sun in an area of moderate temperature. Do not re-use containers. Avoid containers, piping or

fittings made of copper-containing alloys or galvanized metal. Do Not store at temperatures below 0 ° F., as crystallization may occur. Dispose of containers in accordance with local regulations and requirements.

IN CASE OF SPILL: Contain spill and maximize recovery. Keep spill out of water sources. Exercise caution in area of spill for slippery conditions. Dispose of spilled material in accordance with regulatory requirements.

PHYTOTOXICITY: Plant and leaf injury may occur on some crops when certain weather and growing conditions are present. The user assumes all risks of use and handling.

Before handling this product, consult the Material Safety Data Sheet for handling, safety and first aid information.

Follow directions carefully, including precautions for safe handling

DIRECTIONS FOR USE

N-SURE-KS may be applied as a foliar spray application on all turf grasses (cool, transitional and warm season) including lawns, athletic fields and golf courses: fairways, greens and tees.

N-SURE-KS contains 1.7 pounds of N, 1.4 pounds of K₂O and 0.9 pounds of sulfur per gallon.

N-SURE-KS may be applied as a dilute solution via hand gun or spray boom application and may be injected through the irrigation system.

N-SURE-KS gives the Lawn Care Operator and Golf Course Superintendent excellent safety and uniform growth without excessive clippings while maintaining desirable turf color.

N-SURE-KS's safety makes it well suited for low volume applications. Concentrated applications may leave a non-phytotoxic residue on the turf grass surface. If this occurs, irrigation should follow the application.

N-SURE-KS's nitrogen release pattern is eight to ten weeks.

N-SURE-KS is well suited to the custom formulation of turf fertilizer blends and is compatible with many phosphorus, potassium, and micronutrient sources as well as many turf protection chemicals. In the absence of published data, Tessenlerlo KERLEY recommends testing for physical compatibility in all spray combinations by a simple jar test with appropriate concentrations. Care should be taken not to blend N-SURE-KS with highly acidic materials and materials containing a high level of free ammonia.

APPLICATION: Initiate application in spring when first green-up appears and repeat as needed during the active growing season. Apply in 1-1/2 to 4 gallons of spray solution per 1000 square feet.

COOL SEASON GRASSES: Rates will vary from 1/2 to 1 pound of nitrogen and potash per 1000 square feet in 4 to 5 applications at 8 to 10 week intervals for a total application rate not to exceed 3.5 to 4.0 pounds of nitrogen per year.

WARM SEASON GRASSES: Rates will vary from .75 to 1 pound of nitrogen and potash per 1000 square feet in 5 to 6 applications at 8 to 10 week intervals for a total application rate not to exceed 6 to 8 pounds of nitrogen per year. Rates of nitrogen and potash and frequency of application will vary due to cultivar and accepted turf practices.

FERTIGATION: N-SURE-KS may be injected during each irrigation at rates of 19 to 38 fluid ounces (1/4 to 1/2 pound N and K) per thousand square feet. Rates will vary in accordance with the irrigation schedule. Use the lower rate in more frequent waterings.

GOLF COURSE PROGRAM:

FAIRWAYS: N-SURE-KS may be used as the sole nitrogen, potassium and sulfur source or combined with urea, phosphorus and micronutrients in a fertilizer blend for application on fairways. It is recommended that the applications be split to coincide with the nutritional demands of the cultivars present in the fairways and the cultural program of the superintendent. Rates will vary from 3 to 4 pounds of N and K (2 to 2.5 gallons) per thousand square feet on an annual basis.

TEE AND GREEN: For spoon feeding tees and greens apply 1/4 pound of N and K (19 fl. ounces of N-SURE-KS) in 2 to 4 gallons of total spray solution per 1000 square feet every 7 to 10 days. Application may be made in conjunction with the turf protection chemical program. Irrigation is recommended following application or before the next mowing. Application may be made to either wet or dry foliage.

Refer to the following table when varying the rates of nitrogen when using N-SURE-KS. Corresponding amounts of K and S are also listed.

N-SURE-KS FL.OZ./1000ft ²	N RATE FL.OZ./1000ft ²	K ₂ O RATE FL.OZ./1000ft ²	S RATE FL.OZ./1000ft ²
7.5	.1	.08	.05
15.1	.2	.16	.10
22.7	.3	.24	.15
30.2	.4	.32	.21
37.6	.5	.40	.26
45.3	.6	.48	.31
52.9	.7	.56	.37
60.4	.8	.64	.42
68.0	.9	.72	.47
75.5	1.0	.80	.53

FERTIGATION: N-SURE-KS and N:P:K blends with N-SURE-KS can be injected during each irrigation utilizing the current technology and equipment available to the golf course superintendent. It is recommended that rates be in accordance with soil testing data and in accordance with the equipment manufacturers recommendations.

**DIRECTIONS FOR USE ORNAMENTALS,
TREES AND SHRUBS**

DEEP ROOT FEEDING: Deep root feeding applications can be made in either the spring or fall. In the spring, apply N-SURE-KS after the frost is out of the ground, but before the tree has opened all its leaves. In the fall, wait until the tree has dropped most of its leaves or until the soil temperature has reached 50F.

Suggested rates of application are 1.7 to 3.4 pounds of N per thousand square feet [1 to 2 gallons of N-SURE-KS (this rate will also result in 1.4 to 2.8 pounds of K₂O and 0.9 to 1.8 pounds of S)]. Inject the N-SURE-KS based fertilizer solution eight to twelve inches deep on a grid pattern two to three feet apart so that the area below the tree canopy and one third of the area outside the canopy will be treated.

When mixing N-SURE-KS based nitrogen solutions with additional phosphorus and potassium sources, a desirable N:P₂O₅:K₂O analysis could range from a 1:2:3 to a 3:1:1 blend. It is recommended that local arborists be contacted for specific recommendations based on soil test and the variety of tree and ornamental being fed.

FOLIAR SPRAYS: N-SURE-KS may be used in a foliar tree and shrub feeding program and applied in conjunction with a pesticide program. N-SURE-KS will help stimulate new growth, aid recovery from insect and disease damage and enhance color.

Suggested rate of N-SURE-KS is one gallon per 100 gallons of spray solution. In the absence of specific recommendations, it is recommended to use the standard jar test method for compatibility testing with all pesticides prior to mixing in the spray tank. Caution should be exercised by the applicator before applying N-SURE-KS and N-SURE-KS based fertilizer blends to sensitive trees and shrubs. It is suggested that the applicator completes his own trials in absence of specific data.

FERTIGATION: N-SURE-KS and N-SURE-KS based N:P:K blends may be injected through the irrigation system utilizing the current technology and equipment available to the arborist. Rates may vary due to needs of specific varieties.

MIXING PROCEDURES WHEN TANK MIXING N-SURE-KS

- Add 1/2 of total water to spray tank
- Start circulating material in tank
- Add recommended amount of N-SURE-KS or N-SURE-KS based N:P:K fertilizer blend
- Add compatible micronutrients
- Add flowable materials
- Add emulsifiables
- Add any soluble powders and/or water soluble fertilizers. All should be pre-disposed in water before adding to the spray tank solution.
- Complete filling of spray tank to desired volume and continue circulating prior to spray application.
- Flush all spray and nurse equipment after usage.

TECHNICAL DATA INFORMATION

FORMULATION AND HANDLING FACTORS

Pounds per gallon	11.2
Gallons per ton	178.6
Pounds N per gallon	1.7
Pounds K ₂ O per gallon	1.4
Pounds S per gallon	0.9
pH	10.1
Salting-Out Temperature, °F	<0

PLANT NUTRIENT CONTENT

Guaranteed Total Nitrogen (N), Wt. %	15.0 Min
Soluble Potash (K ₂ O), Wt. %	12.0 Min
Sulfur (S), Wt. %	8.0 Min

TYPICAL DISTRIBUTION OF NITROGEN FORMS, % OF TOTAL N

Slow-release Nitrogen (SRN)		40
From Triazone Compounds	37	
From Other N Compounds	3	
Urea Nitrogen		60

WARRANTY AND LIMITATION OF DAMAGES

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