



Tessenderlo
KERLEY
The Specialty Liquid Fertilizer People™

firstTurf[®]
LIQUID FERTILIZERS

KTS[®]

0-0-25+17S

THE ORIGINAL POTASSIUM FERTILIZER SOLUTION CONTAINING SULFUR FOR FEEDING TURF GRASSES, TREES AND ORNAMENTALS

FOR PROFESSIONAL USE

KTS is derived from potassium thiosulfate and is a neutral to basic, chlorine free clear liquid solution containing 25% potash and 17% sulfur. Each gallon of KTS contains 3 pounds of potash (K₂O) and 2.1 pounds of thiosulfate sulfur.

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. 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.

GENERAL INFORMATION

KTS may be applied either as a foliar feed or injected through the irrigation system. It may be applied as a sole source potash and sulfur or blended with N and P₂O₅ sources to provide a desired N: P: K blend with sulfur. Blends with KTS should not be acidified below a pH of 7.0 for prolonged periods of storage.

KTS is compatible with N-Sure[®] based slow-release nitrogen solutions, urea and ammonium polyphosphate solution in any ratio. When blending with UAN solution, a "jar test" is recommended to ensure compatibilities. Potassium reacts with nitrate to form KNO₃ crystals. If this should occur, the addition of water and/or heat should bring the blend back to a clear solution.

In the absence of specific information concerning the mixing with micro-nutrients and/or crop protection chemicals, it is recommended that a "jar test" be conducted to ensure compatibility.

KTS gives the turf professional a completely soluble potassium and sulfur product that allows immediate plant utilization through both root uptake and foliar feeding. KTS may be applied throughout the growing season to correct potassium deficiencies and aid in increasing drought resistance, winter hardiness and overcoming the stress associated with insect and disease pressures.

DIRECTIONS FOR USE - TURF GRASSES

LAWN CARE PROGRAM

KTS may be applied as a spray application on all turf grasses; cool, transitional and warm season.

KTS should be applied as a dilute solution via hand gun or spray boom

application and may be injected through the irrigation system. It is recommended that KTS be tank mixed with N-Sure based slow-release nitrogen solutions containing triazone when making hand gun and spray boom applications for increased efficiencies and safety. Apply with sufficient water to achieve adequate plant coverage especially during periods of low humidity and high temperature to achieve the maximum benefit of foliar fertilization.

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, TRANSITIONAL AND WARM SEASON GRASSES: Rates may vary from 1/4 to 1 pound of potash (11 to 43 fluid ounces) per 1000 square feet in 4 to 6 applications at 8 to 12 week intervals for a total application rate of 1-1/4 to 6 pounds of potassium per 1000 square feet per year. It is recommended that KTS be applied in conjunction with 1/4 to 1 pound (10 to 40 fluid ounces) of nitrogen supplied from N-Sure based slow-release nitrogen fertilizer solutions to aid in the absorption of the potassium and sulfur by the plant.

FERTIGATION: KTS may be injected during each irrigation at rates of 11 to 22 fluid ounces (1/4 to 1/2 pound of K₂O) 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: KTS may be used as the sole potassium source in fairway fertilization with the additional benefit of sulfur to aid in more efficient nitrogen utilization. KTS may also be combined with N and P₂O₅ sources to supply the desired fertilizer blend for proper fairway nutrition. It is recommended that the applications be split to coincide with the nutritional demands of the cultivars present and the cultural program of the superintendent. Suggested rates will vary from 3 to 6 pounds of potash (1 to 2 gallons of KTS) per thousand square feet per growing season.

TEE AND GREEN: For the spoon feeding of tees and greens apply 1/4 pound of K₂O (11 fluid ounces of KTS) in 2 to 4 gallons of total spray solution per 1000 square feet every 14 days. Application may be made in conjunction with the turf protection chemical program. In the absence of published data, a “jar test” is recommended to ensure compatibility. Irrigation is recommended following application.

FERTIGATION: KTS and blends with this fertilizer solution may 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 with the equipment manufacturers’ recommendations.

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

DEEP ROOT FEEDING: Deep root feeding applications may be made in either the spring or fall. In the spring, apply KTS 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 50° F. or less.

Suggested rates of application are 1 to 3 pounds of K₂O per thousand square feet (43 to 128 ounces of KTS). Inject the KTS based fertilizer solution eight to twelve inches deep on a grid pattern two to three feet apart so the area below the tree canopy plus one-third of the area outside the canopy will be treated.

When mixing KTS with phosphorous and nitrogen sources, a desirable N: P₂O₅: K₂O analysis might range from a 1:2:3 to a 3:1:1 blend. It is recommended that local arborists be consulted for specific recommendations based on soil test and the variety of trees and ornamentals being fed.

FOLIAR SPRAYS: KTS may be used in a foliar tree and shrub feeding program and applied in conjunction with a turf protection chemical program. It is recommended that N-Sure based slow-release nitrogen be included in this foliar application to enhance the absorption of potassium by the plant. In the absence of specific data when used in conjunction with turf protection chemicals, it is recommended that a simple "jar test" be made to determine compatibility of all ingredients prior to mixing, KTS will help stimulate new growth, aid recovery from insect and disease damage and enhance color.

A suggested rate of application of KTS is one gallon per 100 gallons of spray solution. For concentrated sprays of less than 100 gallons reduce the rate of KTS to stay within the recommended solution ratio. For example, use 2 quarts when using a mixture of 50 gallons of spray solution. CAUTION should be exercised by the professional applicator before applying KTS and blends including this product to sensitive trees and shrubs. It is recommended that applicators complete their own trials in absence of specific data.

FERTIGATION: KTS and N:P:K blends containing KTS 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.

Refer to the following table when varying the rates of potash and sulfur when using KTS.

KTS	K₂O	S
fl. oz. /1000 Ft ²	pounds per 1000 Ft ²	
11	.26	.18
22	.52	.36
32	.75	.53
43	1.00	.71

When mixing KTS and N-Sure Pro 30-0-0 slow-release nitrogen solution the following approximate analysis will result.

RATIO (v/v)				APPROXIMATE ANALYSIS
KTS	:	N-Sure Pro 30-0-0 = (50% SRN)	=	
1	:	1	=	14-0-13
2	:	1	=	9-0-17
3	:	1	=	7-0-19
4	:	1	=	5-0-20
5	:	1	=	4-0-21

(above also contains sulfur)

When applying any of the above combinations, use a minimum of 1-1/2 gallons of spray solution per 1000 ft.² and/or sufficient carrier to achieve adequate coverage for effective plant utilization.

KTS MIXING PROCEDURES:

- Add 1/2 of water to spray tank, begin circulating
- Add recommended amount of KTS or other N and P sources
- Add compatible micronutrients
- Add flowable materials
- Add emulsifiables
- Add any soluble powders and/or water soluble fertilizers. All should be pre-dispersed in water before adding to the spray tank solution.
- Complete filling of spray tank to desired volume and continue circulating prior to and during spray application.
- Flush all spray and nurse equipment after usage.

For additional information on N-Sure based slow-release nitrogen solutions, ask your vendor for a current application guide on these products.

CAUTION (APPLICATION)

- Do not apply KTS to the foliage of plants sensitive (foliar burn) to sulfur
- Do not apply to foliage of any plant when temperatures are above 90° F
- When mixing KTS or any liquid fertilizer with pesticides, always maintain vigorous agitation during filling and spraying operations.
- Do Not apply with oil sprays.

TECHNICAL DATA INFORMATION

KTS 0-0-25+17S

Plant Nutrient Content Wt. %

Soluble Potash (K ₂ O)	25.0
Total Sulfur (S)	17.0
17% Combined Sulfur	
0% Free Sulfur	

Typical Properties

Specific Gravity	1.46
pH	7.0 to 8.2
Appearance	Clear, Colorless
Salting-Out Temperature, °F	<15

Formulation and Application Factors, 60° F.

Density, lbs/gallon	12.2
Volume, gallons/ton	164.0
Pounds K ₂ O per gallon	3.0
Pounds S per gallon	2.1

Plant Nutrient Source

Potassium Thiosulfate	K ₂ S ₂ O ₃
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WARRANTY AND LIMITATION OF DAMAGES

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