

MATERIAL SAFETY DATA SHEET

PRODCUT NAME: All-K (0-0-25- 17S) Potassium Thiosulfate Solution

MSDS No.: 98-2079

Date of Preparation: 04/01/05

NFPA HAZARD RATINGS:

Health (2), Fire (0), Reactivity (1)

(0) least (1) slight (2) moderate (3) high (4) extreme

Section 1-CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Intended Use: Turf Management.

Manufactured For: Spindler Enterprises, Inc. P.O. Box 6112, Lakeland, Fl 33807.

Phone: 863-619-9822.

Chemical Formula: **$K_2O_3S_2$**

Chemical Synonyms / Common Names: **Potassium Hyposulfite, Solution**
Potassium Thiosulfate, Solution

Chemical Family: **Inorganic Salt**

Manufacturer: Dimmitt Sulfur Products, LTD

Name and: PO Box 10

Address: Texline, TX 79087

Telephone: 1-800-692-1393 or (806) 362-4261

Emergency Number: 1-806-647-2121

CHEMTREC.: 1-800-424-9300

Section 2-COMPOSITION/INFORMATION on INGREDIENTS

CAS#	CHEMICAL NAME	%	Toxicity Data
10294-66-3	Potassium Thiosulfate ($K_2O_3S_2$)	45	No information available
7732-18-5	Water	55	No information available

LIST LEGEND:

00 TSCA INVENTORY

19 PA REQUIREMENT - 3% or Greater

22 CANADIAN DOMESTIC SUB LIST

23 NJ REQUIREMENT - 1% or Greater

50 PHILIPPINES INVENTORY (PICCS)

Section 3-HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

LIQUID, VAPORS OR MIST MAY BE IRRITATING TO EYES, SKIN AND RESPIRATORY TRACT. STRONG REDUCING AGENT. MAY CAUSE PERMANENT EYE DAMAGE.

Clear to pale yellow solution with a slight sulfur odor.

POTENTIAL HEALTH EFFECTS

ROUTES OF ENTRY: **Absorption, Inhalation, and Ingestion.**

TARGET ORGANS: **Eyes, Skin, Respiratory Tract, Gastrointestinal Tract, & Lungs.**

MATERIAL SAFETY DATA SHEET

PRODCUT NAME: All-K (0-0-25- 17S) Potassium Thiosulfate Solution

IRRITANCY: Extremely irritating to skin, eyes and mucous membranes. Permanent eye damage may result from eye contact.

SENSITIZING CAPABILITY: None Known.

REPRODUCTIVE EFFECTS: None Known.

CANCER INFORMATION: None Known.

SHORT TERM EXPOSURE (ACUTE)

INHALATION: Exposure to vapor, mist, or liquid can irritate the respiratory tract.

EYES: Strongly irritating to eyes. Exposure to vapor can cause tearing, conjunctivitis and burning of the eyes. Eye contact may cause corneal injury.

SKIN: Contact may cause burns and tissue destruction.

INGESTION: Strongly irritating to mucous membranes. Can cause severe burns to the mucous membranes of the digestive tract.

REPEATED EXPOSURE (CHRONIC): None Known.

SYNERGISTIC MATERIALS: None Known.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None Known.

Section 4-FIRST AID MEASURES

EYES: IMMEDIATELY flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. IF IRRITATION PERSISTS GET MEDICAL ATTENTION.

SKIN: Wash thoroughly with soap and water. Wash clothing before reuse. IF IRRITATION OCCURS, GET MEDICAL ATTENTION.

INHALATION: Remove to fresh air. If breathing is difficult, have trained person administer oxygen. If respiration stops, give mouth - to - mouth resuscitation. GET MEDICAL ATTENTION IMMEDIATELY.

INGESTION: May irritate gastrointestinal tract. Very large doses cause violent colic, diarrhea, depression and death. May cause severe allergic reaction in some asthmatics and sulfite sensitive individuals. If conscious, give plenty of water or milk. Induce vomiting by touching finger to back of throat. GET IMMEDIATE MEDICAL ATTENTION.

Section 5-FIRE FIGHTING MEASURES

Flash Point: Non - Flammable

Method: Not Applicable

Auto-Ignition: Not Applicable

FLAMMABLE LIMITS IN AIR, BY % VOLUME:

Upper: Non - Flammable

Lower: Non - Flammable

EXTINGUISHING MEDIA: Use agents appropriate for surrounding fire.

FIRE FIGHTING PROCEDURES: Wear NIOSH / MSHA approved positive pressure self-contained breathing apparatus and full protective clothing.

FIRE AND EXPLOSION HAZARD: This product is non - flammable and non - explosive under normal conditions of use. At high temperatures this product can decompose to give off toxic fumes.

MATERIAL SAFETY DATA SHEET

PRODCUT NAME: All-K (0-0-25- 17S) Potassium Thiosulfate Solution

SENSITIVITY TO MECHANICAL IMPACT: Not sensitive

SENSITIVITY TO STATIC DISCHARGE: Not sensitive

Section 6-ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: People performing the clean - up should have full protective equipment including NIOSH / MSHA approved positive pressure self - contained breathing apparatus. Follow protective measures provided under Personal Protection in Section VIII.

ENVIRONMENTAL PRECAUTIONS: Contain spill with dike to prevent entry into sewers or waterways. Spills or releases should be reported, if required, to the appropriate local, state and federal agencies

WASTE DISPOSAL: Consult Dimmitt Sulfur Products, LTD., for assistance in disposing of excess material.

METHODS OF CLEANING UP: Large spills should be removed by vacuum truck. Smaller spills may be soaked up and neutralized with soda ash which should be placed in closed containers, labeled and stored in a safe place outdoors to await proper disposal. Spills on areas other than pavement, e.g., dirt or sand, may be handled by removing the affected soils and placing in approved containers.

Section 7- HANDLING and STORAGE

HANDLING: Do not get in eyes, on skin or clothing. Do not take internally. Wear personal protective equipment as describe in Exposure Controls Personal Protection (Section VIII) of the MSDS. Avoid breathing airborne particulate, wear respiratory protection when exposure is possible.

Use with adequate ventilation.

Keep container tightly closed and properly labeled.

Wash contaminated clothing before reuse.

Wash thoroughly after handling.

Wear goggles or face shield and rubber gloves when handling.

SPECIAL MIXING AND HANDLING INSTRUCTIONS: Not Applicable.

STORAGE: Keep container tightly closed and properly labeled. Store in a cool, ventilated area away from incompatible materials (see Section X).

Section 8-EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: There are no occupational exposure limits established at this time. Since this material may be irritating to skin and mucous membranes, general room ventilation plus local exhaust at points of emission should be used to maintain levels of airborne contaminants as low as feasibly possible.

PERSONAL PROTECTION

RESPIRATORY: Respiratory protection is not required under normal use. Wear a NIOSH / MSHA approved respirator following manufacturer's recommendations, when airborne contaminants may occur.

EYE / FACE: Wear chemical safety goggles plus full-face shield to protect against splashing when appropriate (ANSI Z87.1).

MATERIAL SAFETY DATA SHEET

PRODCUT NAME: All-K (0-0-25- 17S) Potassium Thiosulfate Solution

SKIN: **Wear chemical resistant arm length or gauntlet gloves. Wear protective clothing to minimize skin contact.**

OTHER: Standard work clothing closed at the neck and wrists. Emergency shower and eyewash facility should be in close proximity (ANSI Z358.1).

Section 9-PHYSICAL/CHEMICAL PROPERTIES

APPEARANCE AND ODOR: **Clear to pale yellow solution with a slight sulfur odor.**

ODOR THRESHOLD: **Not Available**

MELTING POINT: **<10° F**

VAPOR PRESSURE: **Not Determined**

SPECIFIC GRAVITY, (H₂O - 1): **1.45-1.47**

% VOLATILE BY VOLUME: **Not Determined**

VAPOR DENSITY: **Not Determined**

EVAPORATION RATE: **Not Determined**

pH: **7.0-8.5**

SOLUBILITY IN WATER, % by wt.: **100**

Section 10-STABILITY AND REACTIVITY

CHEMICAL STABILITY: **Stable**

REACTS WITH: **Heat, Oxidizers, Acids, Alkalis**

HAZARDOUS POLYMERIZATION: **Will not occur**

COMMENTS: **Avoid contact with oxidizing agents. Avoid heat, sparks and open flames**

HAZARDOUS DECOMPOSITION PRODUCTS: **Generates toxic and irritating gases at high temperatures.**

Section 11-TOXICOLOGICAL INFORMATION

10294-66-3 **Potassium Thiosulfate**

Toxicity for oral ingestion of ammonium thiosulfate is slight because ammonium is readily excreted in urine. The ammonium salt is basic and may be irritating to corrosive tissues depending on the concentration.

Section 12-ECOLOGICAL INFORMATION

10294-66-3 **Potassium Thiosulfate**

AQUATIC ECOTOX DATA: **Biological Oxygen Demand (BOD): 0.62 lb./lb. 5 days**

TERRESTRIAL ECOTOX DATA: **No Data Available**

OCTANOL / WATER PARTITION COEFFICIENT: **No Data Available**

ENVIRONMENTAL FATE DATA: **No Data Available**

MATERIAL SAFETY DATA SHEET

PRODCUT NAME: All-K (0-0-25- 17S) Potassium Thiosulfate Solution

Section 13-DISPOSAL CONSIDERATIONS

Dispose of all waste and contaminated equipment in accordance with all applicable Local, State and Federal Health and Environmental regulations.

The materials resulting from clean - up operations may be hazardous wastes and, therefore, subject to specific regulations. Package, store, transport and dispose of all (clean - up) materials and any contaminated equipment in accordance with all applicable Local, State and Federal regulations.

Section 14-TRANSPORT INFORMATION

DOT CLASSIFICATION: Not Regulated
DOT SHIPPING NAME: Potassium Thiosulfate, Solution

Section 15-REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: OSHA Standard 29 CFR 1910.1200 requires that information be provided to employees regarding the hazards of chemicals by means of a hazard communication program including labeling, material safety data sheets, training and access to written records. We request that you and it is your legal duty to make all information in the Material Safety Data Sheet available to your employees.

To aid our customers in complying with regulatory requirements, SARA Title III Hazard Categories for this product are indicated below. If the word "YES" appears next to any category, this product may be reportable by you under the requirements of 40.CFR.370. Please consult those regulations for details.

TSCA: All components of this product that are required to be on the TSCA inventory are listed on the inventory.

SARA / TITLE III HAZARD CATEGORIES:

Immediate (Acute) Health:	YES
Delayed (Chronic) Health:	NO
Fire Hazard:	NO
Reactive Hazard:	NO
Sudden Release of Pressure:	NO

HMIS HAZARD RATINGS:

Least = 0 Slight = 1 Moderate = 2 High = 3 Extreme = 4

Health Hazard = 1
Fire Hazard = 0
Reactivity = 0

STATE REGULATIONS: See Section II, COMPOSITION / INFORMATION ON INGREDIENTS list legend for applicable state regulation.

INTERNATIONAL REGULATIONS: Consult the regulations of the importing country.
CANADA, WHMIS Hazard Class: Not Classifiable

MATERIAL SAFETY DATA SHEET

PRODCUT NAME: All-K (0-0-25- 17S) Potassium Thiosulfate Solution

MSDS LEGEND:

ACGIH = American Conference of Governmental Industrial Hygienists
CAS = Chemical Abstracts Service Registry Number
CEILING = Ceiling Limit (15 minutes)
CEL = Corporate Exposure Limit
OSHA = Occupational Safety Health Administration
PEL = Permissible Exposure Limit (OSHA)
STEL = Short Term Exposure Limit (15 minutes)
TDG = Transportation of Dangerous Goods (Canada)
TLV = Threshold Limit Value
TWA = Time Weighted Average (8 hours)
WHMIS = Worker Hazardous Materials Information System (Canada)

Section 16-WARNING LABEL INFORMATION

SIGNAL WORD: CAUTION

HAZARD WARNINGS: **Flash Point / Non Flammable LIQUID, VAPOR OR MIST MAY BE IRRITATING TO EYES, SKIN AND RESPIRATORY TRACT. STRONG REDUCING AGENT MAY CAUSE PERMANENT EYE DAMAGE.**

PRECAUTIONS: Use with adequate ventilation and wear respiratory protection when exposure to dust, mist or spray is possible.

Avoid breathing dust, vapors or mist.

Wear safety goggles with side shields or chemical splash goggles, protective clothing and chemical resistant gloves.

Avoid contact with eyes, skin and clothing.

Avoid contact with oxidizers, strong acids and alkalis.

Do Not Swallow. Wash thoroughly after handling.

FIRST AID:

EYES: **IMMEDIATELY** flush eyes with a directed stream of water for at least 15 minutes, forcibly holding eyelids apart to ensure complete irrigation of all eye and lid tissue. **IF IRRITATION PERSIST GET MEDICAL ATTENTION.**

SKIN: Wash thoroughly with soap and water. Wash clothing before reuse. **IF IRRITATION OCCURS, GET MEDICAL ATTENTION.**

INHALATION: **Remove to fresh air. If breathing is difficult, have trained person administer oxygen.** If respiration stops, give mouth - to mouth resuscitation. **GET MEDICAL ATTENTION IMMEDIATELY.**

INGESTION: May irritate gastrointestinal tract. Very large doses cause violent colic, diarrhea, depression and death. May cause severe allergic reaction in some asthmatics and sulfite sensitive individuals. **IF CONSCIOUS, GIVE PLENTY OF WATER OR MILK. INDUCE VOMITING BY TOUCHING FINGER TO BACK OF THROAT. GET IMMEDIATE MEDICAL ATTENTION.**

IN CASE OF SPILL OR LEAK:

Contain liquids and prevent discharges to streams or sewer systems.

For large spills, dike and pump into properly labeled containers for reclamation or disposal.

For small spills, soak up with absorbent material and place in properly labeled containers for disposal.

Wear full protective equipment and clothing.

FIRE: Fire will liberate toxic gases.

Use extinguishing medium as appropriate for surrounding fire.

Use NIOSH / MSHA self - contained breathing apparatus and full protective equipment.

MATERIAL SAFETY DATA SHEET

PRODCUT NAME: All-K (0-0-25- 17S) Potassium Thiosulfate Solution

HANDLING AND STORAGE: Keep container tightly closed and properly labeled. Material is damaged by moisture. Store in a cool, dry, well ventilated area away from acids, alkalis and strong oxidizing agents. Wear personal protective equipment as described in Exposure Controls / Personal Protection (Section VIII) of the MSDS.

DISPOSAL: Material that cannot be reused or chemically reprocessed should be disposed of in a manner meeting government regulations. Always package, store, transport and dispose of all waste and contaminated equipment in accordance with all applicable Local, State and Federal regulations.

INFORMATION REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS:

This product contains:

CAS #	NAME
10294-66-3	Potassium Hyposulfite (Potassium Thiosulfate)
7732-38-1	Water

HMIS RATING: HEALTH = 1 FLAMMABILITY = 0 REACTIVITY = 0

IMPORTANT: The information presented herein, while not guaranteed, was prepared by competent technical personnel and is true and accurate to the best of our knowledge. **NO WARRANTY OF MERCHANTABILITY IS MADE REGARDING PERFORMANCE, STABILITY OR OTHERWISE.** This information is not intended to be all - inclusive as to the manner and conditions of use, handling and storage. Other factors may involve other or additional safety or performance considerations. While our technical personnel will be happy to respond to questions regarding safe handling and use procedures, safe handling and use remains the responsibility of the customer. No suggestions for use are intended as, and nothing herein shall be construed as a recommendation to infringe any existing patents or violate any local, state or federal laws, rules, regulations or ordinances.

For additional non - emergency health, safety or environmental information, please call (806) 362-4261 or write to:

Dimmitt Sulfur Products, LTD
PO Box 10
Texline, TX 79087

Not for use as a direct food or drug additive, unless labeled "FOOD and/or DRUG" GRADE.

Section 17-OTHER INFORMATION

DISCLAIMER: The information on this MSDS was obtained from current and reliable sources intended for persons having related technical skills. However, the data is provided without warranty, expressed or implied, regarding its correctness or accuracy. It is the users responsibility to determine safe conditions for use of the product and to assume liability for loss, injury, damage, or expense resulting from improper use.