LKT Laboratories, Inc.

Safety Data Sheet

Section 1. Product and Company Identification

Product Name Allicin solution (aqueous)

Product ID A4441

Chemical Name (Synonyms) Allylthiosulphinic acid allyl ester; Diallyl thiosulfinate

Supplier

LKT Laboratories, Inc
545 Phalen Blvd.
St. Paul, MN 55130 USA
Ph: 651-644-8424 Fax: 651-644-8357
www.lktlabs.com - getinfo@lktlabs.com

Emergency Phone # 1-800-424-9300

Section 2. Hazards Identification

GHS Classification

Acute toxicity, Oral (Category 4) H302
Skin corrosion/irritation (Category 2) H315
Serious eye damage/eye irritation (Category 2A) H319
Carcinogenicity (Category 1B) H350
Specific target organ toxicity (single exposure) (Category 3), Organs H371

GHS Label elements including precautionary statements

Pictogram

Signal word **Danger**

Hazard and precautionary statements

Hazard statements
H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H350 - May cause cancer.
H371 - May cause damage to organs.

Precautionary statements
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust.
P264 - Wash face, hands and any exposed skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P280 - Wear protective gloves.
P281 - Use personal protective equipment as required.
P301 + 312 - IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.
P302 + 352 - IF ON SKIN: Wash with soap and water.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 - IF exposed or concerned: Get medical advice.
P309 + P311 - IF exposed or if you feel unwell: call a POISON CENTER or doctor.
P312 - Call a POISON CENTER or doctor if you feel unwell.
P330 - Rinse mouth.
P332 + P313 - IF exposed or concerned: Get medical advice.
P337 + P313 - IF eye irritation persists: Get medical advice.
P362 - Take off contaminated clothing and wash before reuse.
P405 - Store locked up.
P501 - Dispose of contents/container to an approved waste disposal plant.

HMIS Classification

Health Hazard: 0
Chronic health hazard:
Flammability: 1
Physical Hazard: 0

NFPA Rating

Health Hazard: 0
Flammability hazard: 1
Reactivity hazard: 0

Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation. May cause drowsiness or dizziness.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes serious eye irritation.

Ingestion: Acute toxicity. Harmful if swallowed.
Carcinogenicity: May cause cancer. Specific target organ toxicity: May cause damage to organs.

Section 3. Composition/Information on Ingredients

Substances

Formula $C_6H_{10}OS_2$ **Formula Wt.** 162.27

CAS No. 539-86-6 **EC No.**

Section 4. First Aid Measues

General advice If symptoms persist, call a physician.

Eye Contact Rinse immediately with plenty of water, also under the eyelids. After initial flushing, remove contact lenses if present and continue to flush for at least 15 minutes more. Keep eye wide open while rinsing.

Skin Contact Wash with soap and water for 15 minutes and seek medical attention immediately. Wash contaminated clothing before use.

Inhalation Remove from exposure and provide respiration support if necessary. Seek medical attention.

Ingestion Rinse mouth with water. Do not induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Contact a physician or poison control immediately.

Section 5 . Firefighting Measures

Flash Point Not available.

Extingushing Media Use a water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Firefighting Procedures Wear self-contained breathing apparatus and protective clothing for firefighting if necessary.

Unusual Fire Hazards Not available.

Section 6. Accidental Release Measures

Personal Precautions Use personal protective equipment. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental Precautions Do not let product enter drains.

Methods and materials for containment and cleanup Sweep up and shovel. Keep product in a suitable, closed container for disposal. Absorb spill onto diatomaceous earth and cover with sodium carbonate. Ventilate the area and wash spill site after material has been removed.

Section 7. Handling and Storage

Handling Wear gloves, goggles and lab coat when handling this material. Provide appropriate exhaust ventilation at places where dust is formed. Wash thoroughly after handling material.

Storage Conditions Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: Store at -80˚C

Hazardous Decomposition Products Carbon oxides, hydrogen sulfide.

Other Remarks **Synthetic. This product is extremely heat sensitive. KEEP COLD. This product ships with dry ice.**

Section 8. Exposure Controls/Personal Protection

Personal protective equipment

EXPOSURE CONTROLS:
Contains no substances with occupational exposure limit values.
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
PERSONAL PROTECTION:
Eye Protection: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).
Hand Protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Skin and Body Protection: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory Protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Section 9. Physical and Chemical Properties

Physical State	Liquid.	**Color**	Yellow.
Boiling Point	Not available.	**Volatility**	Not available.
Melting Point	<25ºC	**Density**	Not available.
Solubility	Slightly soluble in water. Miscible with alcohol, ether, benzene.	**pH**	Not available.
Flash Point	Not available.	**Ignition temperature**	Not available.
Lower explosion limit	Not available.	**Autoignition temperature**	Not available.
Upper explosion limit	Not available.	**Vapor pressure**	Not available.
Water solubility	Slightly soluble in water.	**Odor**	Not available.
Partition coefficient: n-octanol/water	log Pow: 1.87	**Odor Threshold**	Not available.
Relative vapor density	>1	**Evaporation rate**	Not available.

Section 10. Stability and Reactivity

Stability Must be kept cold, unstable at room temperature.

Materials To Avoid Strong oxidizing agents.

Hazardous Decomposition Products Carbon oxides, hydrogen sulfide.

Possibility of hazardous reactions	Not available.
Conditions to avoid	Extreme temperatures and direct sunlight.

Section 11. Toxicological Information

Oral LD50	Not available.	**Skin corrosion/irritation**	Not available.
Inhalation LC50	Not available.	**Serious eye damage/irritation**	Not available.
Dermal LD50	Subcutaneous (mouse) LD50: 120mg/kg	**Respiratory or skin sensitization**	Not available.
Other information on acute toxicity	Not available.	**Germ cell mutagenicity**	Not available.
Reproductive Toxicity	Not available.	**Aspiration Hazard**	Not available.
Specific organ toxicity single exposure (GHS)	Not available.	**Synergistic effects**	Not available.
Specific organ toxicity repeated exposure (GHS)	Not available.	**Additional Information**	Not available.
Teratogenicity	Not available.	**Signs and symptoms of exposure**	Chemical physical, and toxicological properties have not been thoroughly investigated

Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation. May cause drowsiness or dizziness.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes serious eye irritation.
Ingestion: Acute toxicity. Harmful if swallowed.
Carcinogenicity: May cause cancer. Specific target organ toxicity: May cause damage to organs.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Section 12. Ecological Information

Toxicity	Not available.	**Mobility in soil**	Not available.
		PBT and vPvB assessment	PBT/vPvB assessment not available as chemical safety assessment not required/ not

conducted.

Persistence and degradability Not available.

Other adverse effects Not available.

Bioaccumulative potential Not available.

Section 13. Disposal Considerations

Waste Disposal Dispose of material according to all federal, state, and local regulations.
Offer material to a licensed, professional waste disposal company to dispose of as unused product.

Section 14. Transport Information

DOT (US) Not dangerous goods.

IATA Not dangerous goods.

IMDG Not dangerous goods.

Further Information

Section 15. Regulatory Information

Reach No.

SARA 302 Components SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title II, Section 302.

SARA 313 Components SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Components Acute health hazard.

Massachusetts Right To Know Components No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components Allicin solution (aqueous) CAS #: 539-86-6 Revision Date:

New Jersey Right To Know Components Allicin solution (aqueous) CAS #: 539-86-6 Revision Date:

California Prop 65 Components This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16. Other Information

Other information The information in this document is believed to be correct but is not necessarily complete. LKT does not guarantee the accuracy of the information. The burden of verifying the information in this document rests solely upon the user.

Updated 6/26/2019

For emergencies in the USA, call
CHEMTREC 800-424-9300