

# Safety Data Sheet

Issue Date: 03-Apr-2019

Revision Date: 14-Aug-2024

Version 3

## 1. IDENTIFICATION

### Product identifier

**Product Name** AST-2

### Other means of identification

**SDS #** UO-013

### Recommended use of the chemical and restrictions on use

**Recommended Use** For industrial use.

### Details of the supplier of the safety data sheet

#### **Manufacturer Address**

Ultra Optics Company  
9200 Wyoming Avenue N.  
Suite 360  
Brooklyn Park, MN 55455

#### Emergency telephone number

**Company Phone Number** 1-800-365-9993  
**Emergency Telephone** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Physical state** Liquid

### Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Reproductive toxicity	Category 2
Flammable liquids	Category 4

### Signal Word

**Danger**

### Hazard statements

Harmful if inhaled  
Causes skin irritation  
Causes serious eye damage  
May cause an allergic skin reaction  
Suspected of damaging fertility or the unborn child  
Combustible liquid



**Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wash face, hands and any exposed skin thoroughly after handling  
Contaminated work clothing must not be allowed out of the workplace  
Keep away from flames and hot surfaces. - No smoking

**Precautionary Statements - Response**

If exposed or concerned: Get medical advice/attention  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
Immediately call a POISON CENTER or doctor  
IF ON SKIN: Wash with plenty of water and soap  
Take off contaminated clothing and wash it before reuse  
If skin irritation or rash occurs: Get medical advice/attention  
IF INHALED: Remove person to fresh air and keep comfortable for breathing  
IN CASE OF FIRE: Use CO2, dry chemical, or foam to extinguish

**Precautionary Statements - Storage**

Store locked up  
Store in a well-ventilated place. Keep cool

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards**

Very toxic to aquatic life with long lasting effects

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical name	CAS No	Weight-%
(3-Glycidyloxypropyl)trimethoxysilane	2530-83-8	60-80
1,6-Hexanediol diacrylate	13048-33-4	10-30
Octamethylcyclotetrasiloxane	556-67-2	1-5
Diphenyl(4-phenylthio)phenylsulfonium Hexafluoroantimonate	71449-78-0	1-5
Propylene carbonate	108-32-7	1-5

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

**4. FIRST AID MEASURES****Description of first aid measures**

<b>General Advice</b>	If exposed or concerned: Get medical advice/attention.
<b>Eye Contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
<b>Skin Contact</b>	Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation or rash occurs: Get medical advice/attention.
<b>Inhalation</b>	Remove person to fresh air and keep comfortable for breathing.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed****Symptoms**

May be harmful if swallowed. May be harmful in contact with skin. Harmful if inhaled.  
 Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction.  
 Suspected of damaging fertility or the unborn child.

**Indication of any immediate medical attention and special treatment needed****Notes to Physician**

Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Use CO<sub>2</sub>, dry chemical, or foam for extinction.

**Unsuitable Extinguishing Media** Not determined.

**Specific Hazards Arising from the Chemical**

Combustible liquid.

**Protective equipment and precautions for firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures****Personal Precautions**

Use personal protective equipment as required.

**Environmental precautions****Environmental precautions**

See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up****Methods for Containment**

Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up**

Keep in suitable, closed containers for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling****Advice on Safe Handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing and eye/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wash face, hands and any exposed skin thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

**Conditions for safe storage, including any incompatibilities****Storage Conditions**

Store locked up. Store in a well-ventilated place. Keep cool.

**Incompatible Materials**

None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Diphenyl(4-phenylthio)phenylsulfonium Hexafluoroantimonate 71449-78-0	TWA: 0.5 mg/m <sup>3</sup> Sb	TWA: 0.5 mg/m <sup>3</sup> Sb (vacated) TWA: 0.5 mg/m <sup>3</sup> Sb	IDLH: 50 mg/m <sup>3</sup> Sb TWA: 0.5 mg/m <sup>3</sup> Sb

### Appropriate engineering controls

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits.

### Individual protection measures, such as personal protective equipment

**Eye/Face Protection** Wear safety glasses with side shields (or goggles). Refer to 29 CFR 1910.133 for eye and face protection regulations.

**Skin and Body Protection** Refer to 29 CFR 1910.138 for appropriate skin and body protection.

**Respiratory Protection** Refer to 29 CFR 1910.134 for respiratory protection requirements.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odor</b>	Not determined
<b>Appearance</b>	Not determined	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Not determined		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	
Melting point / freezing point	No data available	
Initial boiling point and boiling range	No data available	
Flash point	>60 °C / >140 °F	Pensky-Martens Closed Cup (PMCC)
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid - Not Applicable	
Flammability Limit in Air		
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor Pressure	<1mmHg	
Vapor Density	1	(at 20°C/68°F)
Relative Density	Not determined	
Water Solubility	Insoluble in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	No data available	
Decomposition temperature	Not determined	
Kinematic viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

## 10. STABILITY AND REACTIVITY

### Reactivity

Not reactive under normal conditions.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

None under normal processing.

### Conditions to Avoid

Keep out of reach of children.

### Incompatible materials

None known based on information supplied.

### Hazardous decomposition products

None known based on information supplied.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

#### Product Information

<b>Eye Contact</b>	Avoid contact with eyes.
<b>Skin Contact</b>	May be harmful in contact with skin.
<b>Inhalation</b>	Harmful if inhaled.
<b>Ingestion</b>	May be harmful if swallowed.

### Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
(3-Glycidyloxypropyl)trimethoxysilane 2530-83-8	= 7.01 g/kg ( Rat )	= 3.97 mL/kg ( Rabbit )	> 5.3 mg/L ( Rat ) 4 h
1,6-Hexanediol diacrylate 13048-33-4	= 5 g/kg ( Rat )	= 3600 mg/kg ( Rabbit )	-
Octamethylcyclotetrasiloxane 556-67-2	= 1540 mg/kg ( Rat )	> 2375 mg/kg ( Rat )	= 36 mg/L ( Rat ) 4 h
Propylene carbonate 108-32-7	= 29000 mg/kg ( Rat )	> 3000 mg/kg ( Rabbit )	-

### Symptoms related to the physical, chemical and toxicological characteristics

<b>Symptoms</b>	Please see section 4 of this SDS for symptoms.
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### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Skin corrosion/irritation</b>	Causes skin irritation.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.

<b>Sensitization</b>	May cause an allergic skin reaction.
<b>Carcinogenicity</b>	Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
<b>Reproductive toxicity</b>	Suspected of damaging fertility or the unborn child.

**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

<b>Oral LD50</b>	4,104.20 mg/kg
<b>Dermal LD50</b>	4,136.80 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	1.50 mg/l

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

**Component Information**

Chemical name	Algae/aquatic plants	Fish	Crustacea
(3-Glycidyloxypropyl)trimethoxysilane 2530-83-8		LC50: =55mg/L (96h, Cyprinus carpio)	
Octamethylcyclotetrasiloxane 556-67-2		LC50: >500mg/L (96h, Brachydanio rerio) LC50: >1000mg/L (96h, Lepomis macrochirus)	
Propylene carbonate 108-32-7	EC50: >500mg/L (72h, Desmodesmus subspicatus)	LC50: >1000mg/L (96h, Cyprinus carpio)	EC50: >500mg/L (48h, Daphnia magna)

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

There is no data for this product.

**Mobility**

Chemical name	Partition coefficient
1,6-Hexanediol diacrylate 13048-33-4	2.81
Octamethylcyclotetrasiloxane 556-67-2	6.488
Diphenyl(4-phenylthio)phenylsulfonium Hexafluoroatimonate 71449-78-0	-0.426
Propylene carbonate 108-32-7	0.48

**Other adverse effects**

Not determined

## 13. DISPOSAL CONSIDERATIONS

**Waste Treatment Methods**

<b>Disposal of Wastes</b>	Disposal should be in accordance with applicable regional, national and local laws and regulations.
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**Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**California Hazardous Waste Status**

Chemical name	California Hazardous Waste Status
Diphenyl(4-phenylthio)phenylsulfonium Hexafluoroatimonate 71449-78-0	Toxic

**14. TRANSPORT INFORMATION****Note**

According to 49 CFR §173.150(f)(1), this material should be reclassified as "NA1993, Combustible Liquid, N.O.S." if it is shipped in bulk.

**DOT**

Not regulated

**IATA**

Not regulated

**IMDG****Marine Pollutant**

This material may meet the definition of a marine pollutant

**15. REGULATORY INFORMATION****International Inventories**

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELINCS	ENCS	IECSC	KECL	PICCS	AICS
(3-Glycidyloxypropyl)trimethoxy silane	X	ACTIVE	X	X	X	X	X	X	X
1,6-Hexanediol diacrylate	X	ACTIVE	X	X	X	X	X	X	X
Octamethylcyclotetrasiloxane	X	ACTIVE	X	X	X	X	X	X	X
Diphenyl(4-phenylthio)phenylsulfonium Hexafluoroatimonate	X	ACTIVE	X		X	X		X	X
Propylene carbonate	X	ACTIVE	X	X	X	X	X	X	X

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**US Federal Regulations****CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

**SARA 313**

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Diphenyl(4-phenylthio)phenylsulfonium	71449-78-0	1-5	1.0

Hexafluoroatimonate - 71449-78-0

**CWA (Clean Water Act)**

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Diphenyl(4-phenylthio)phenylsulfonium Hexafluoroatimonate		X		

**US State Regulations****California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Diphenyl(4-phenylthio)phenylsulfonium Hexafluoroatimonate 71449-78-0	X		X

**16. OTHER INFORMATION****NFPA**

Health hazards

-

Flammability

-

Instability

-

Special hazards

-

**HMIS**

Health hazards

-

Flammability

-

Physical hazards

-

Personal Protection

Not determined

Issue Date:

03-Apr-2019

Revision Date:

14-Aug-2024

Revision Note:

Updated formula

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**