

# MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT Allyl thiourea

FILE NO.: Allyl thiourea

MSDS DATE: 9/4 /13

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Allyl thiourea , Thiosinamine

SYNONYMS: 1,Allyl-2-Thiourea

MANUFACTURER: Synectic Corporation

ADDRESS: P.O. Box 611  
Nitro, WV 25143

EMERGENCY PHONE: Chemtrec  
CHEMTREC PHONE: 800-424-9300  
OTHER CALLS: 304-727-6796  
FAX PHONE: 304-727-6797

CHEMICAL NAME: 1-Allyl-2-Thiourea  
CHEMICAL FAMILY: Thioureas  
CHEMICAL FORMULA: CH<sub>2</sub>=CHCH<sub>2</sub>NHCSNH<sub>2</sub>

PRODUCT USE: Chemical intermediate

### SECTION 1 NOTES:

Symbol(s) T - Toxic

R-phrases(s) R25 - Toxic if swallowed

#### Hazard Statements

H301 - Toxic if swallowed

#### Precautionary Statements - EU (§28, 1272/2008)

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician

**P280 - Wear protective gloves/ eye protection/ face protection**

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: Allyl thiourea

CAS NO.	109-57-9	98%min.	% WT	SARA 313 REPORTABLE
---------	----------	---------	------	---------------------

OSHA PEL-TWA: None	ppm	mg/m3
OSHA PEL STEL : none		
OSHA PEL CEILING: none		

ACGIH TLV-TWA: none		
ACGIH TLV STEL: none		
ACGIH TLV CEILING: none		

### SECTION 2 NOTES:

## SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Toxic if swallowed

### ROUTES OF ENTRY:

#### POTENTIAL HEALTH EFFECTS

EYES: May cause irritation

SKIN: May cause irritation

INGESTION: Toxic by ingestion

INHALATION: May cause respiratory irritation, dust may be coughed up and ingested by swallowing..

# MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT Allyl thiourea

FILE NO.: Allyl thiourea

MSDS DATE: 9/4 /13

ACUTE HEALTH HAZARDS: Toxic if swallowed

CHRONIC HEALTH HAZARDS: None noted

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Unknown

---

## CARCINOGENICITY

OSHA: no ACGIH: no NTP: no IARC: no  
OTHER:

## SECTION 3 NOTES:

---

## SECTION 4: FIRST AID MEASURES

**EYES:** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

**SKIN:** Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**INGESTION:** Do not induce vomiting. Call a physician or Poison Control Center immediately.

**INHALATION:** Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Obtain medical attention.

**NOTES TO PHYSICIANS OR FIRST AID PROVIDERS:** Treat symptomatically

## SECTION 4 NOTES:

---

## SECTION 5: FIRE-FIGHTING MEASURES

Finely divided dust may ignite explosively- similar to flour or coal dust.

**FLAMMABLE LIMITS IN AIR, UPPER:** unknown  
(% BY VOLUME) **LOWER:** unknown

**FLASH POINT:** unknown

**AUTOIGNITION TEMPERATURE:** unknown

**NFPA HAZARD CLASSIFICATION** Not published

**HEALTH:** **FLAMMABILITY:** **REACTIVITY:**  
**OTHER:**

**HMIS HAZARD CLASSIFICATION** not published

**HEALTH:** **FLAMMABILITY:** **REACTIVITY:**  
**PROTECTION:**

**EXTINGUISHING MEDIA:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**SPECIAL FIRE FIGHTING PROCEDURES:** Thermal decomposition can lead to release of irritating gases and vapors. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:**

# MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT Allyl thiourea

FILE NO.: Allyl thiourea

MSDS DATE: 9/4 /13

HAZARDOUS DECOMPOSITION PRODUCTS: Usual products of combustion as well as sulfur and nitrogen compounds.. Not characterized.

## SECTION 5 NOTES:

---

## SECTION 6: ACCIDENTAL RELEASE MEASURES

---

**ACCIDENTAL RELEASE MEASURE:** Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

### Environmental precautions

Should not be released into the environment.

### Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation.

## SECTION 6 NOTES:

---

## SECTION 7: HANDLING AND STORAGE

---

**HANDLING:** Wear personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Do not breathe vapors/dust. Do not get in

eyes, on skin, or on clothing. Do not ingest.

**STORAGE:** Keep containers tightly closed in a dry, cool and well-ventilated place.

## SECTION 7 NOTES:

---

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

---

### Control parameters

**Exposure limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological limit values** This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration(PNEC)** No information available.

**ENGINEERING CONTROLS:** Ensure adequate ventilation, especially in confined areas Ensure that eyewash stations and safety showers are close to the workstation location

**VENTILATION :** Good mechanical ventilation. Local exhaust.

**RESPIRATORY PROTECTION:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**EYE PROTECTION:** Safety glasses with side-shields

**SKIN PROTECTION:** Wear appropriate protective gloves. In dusty conditions use appropriate protective clothing.

**WORK HYGIENIC PRACTICES:** Handle in accordance with good industrial hygiene and safety practice

## SECTION 8 NOTES:

---

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

---

**APPEARANCE:** white to beige powder or crystal.

**ODOR:** Mild sulfurous or garlicky

# MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT Allyl thiourea

FILE NO.: Allyl thiourea

MSDS DATE: 9/4 /13

PHYSICAL STATE: Solid

pH AS SUPPLIED: solid

pH (Other): 6.5- 67 g/l aq.sol.

BOILING POINT: unknown

MELTING POINT: 70 - 78°C / 158 - 172.4°F

VAPOR PRESSURE (mmHg): unknown

VAPOR DENSITY (AIR = 1): unknown

SPECIFIC GRAVITY (H<sub>2</sub>O = 1): Solid

EVAPORATION RATE: solid- unknown

SOLUBILITY IN WATER: 67 g/l (20°C)

PERCENT SOLIDS BY WEIGHT: 100

MOLECULAR WEIGHT: 116.18

Molecular Formula C<sub>4</sub> H<sub>8</sub> N<sub>2</sub> S

SECTION 9 NOTES:

---

## SECTION 10: STABILITY AND REACTIVITY

---

STABLE x

UNSTABLE

STABILITY: Stable under normal conditions.

CONDITIONS TO AVOID (STABILITY): Incompatible products, Excess heat, Avoid dust formation.

INCOMPATIBILITY (MATERIAL TO AVOID): Strong oxidizers

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:

HAZARDOUS POLYMERIZATION: does not occur

SECTION 10 NOTES:

## SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Product Information

Component Information

Component LD<sub>50</sub> Oral LD<sub>50</sub> Dermal LC<sub>50</sub> Inhalation

Thiourea, 2-propenyl- 200 mg/kg ( Rat )

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization

Sensitization No information available.

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Target Organs None known.

Other Adverse Effects See actual entry in RTECS for complete information The toxicological properties have not been fully investigated. RTECS: YR8050000

Endocrine Disruptor Information None known

# MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT Allyl thiourea

FILE NO.: Allyl thiourea

MSDS DATE: 9/4 /13

## SECTION 11 NOTES:

---

## SECTION 12: ECOLOGICAL INFORMATION

---

**ECOLOGICAL INFORMATION:** Ecotoxicity effects Do not empty into drains

**Persistence and degradability**

No information available

**Bioaccumulative potential**

No information available.

**Mobility in soil**

No information available.

**Results of PBT and vPvB assessment: unknown**

**Other adverse-No information available**

## SECTION 12 NOTES:

---

## SECTION 13: DISPOSAL CONSIDERATIONS

---

**WASTE DISPOSAL METHOD:** Landfill or incinerate in permitted incinerator

**RCRA HAZARD CLASS:** none

## SECTION 13 NOTES:

---

## SECTION 14: TRANSPORT INFORMATION

---

### U.S. DEPARTMENT OF TRANSPORTATION

**PROPER SHIPPING NAME:** Toxic Solid, Organic, NOS (Allyl Thiourea)

**HAZARD CLASS:** 6.1

**ID NUMBER:** UN2811

**PACKING GROUP:** III

**LABEL STATEMENT:**

### AIR TRANSPORTATION (Same as above.)

**PROPER SHIPPING NAME:**

**HAZARD CLASS:**

**ID NUMBER:**

**PACKING GROUP:**

**LABEL STATEMENTS:**

## OTHER AGENCIES:

## SECTION 14 NOTES:

---

## SECTION 15: REGULATORY INFORMATION

---

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**International Inventories**

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Thiourea, 2-propenyl-	203-683-5	-	X	X	X	-	X	X	X		

### Legend

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

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

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

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

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

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

# MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT Allyl thiourea

AICS - Inventory of Chemical Substances

KECL - Existing and Evaluated Chemical Substances

U.S. FEDERAL REGULATIONS

FILE NO.: Allyl thiourea

MSDS DATE: 9/4 /13

TSCA (TOXIC SUBSTANCE CONTROL ACT): LISTED

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): NOT LISTED

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): NOT LISTED

311/312 HAZARD CATEGORIES: NOT LISTED

313 REPORTABLE INGREDIENTS: NONE

STATE REGULATIONS: UNKNOWN

INTERNATIONAL REGULATIONS: SEE ABOVE

SECTION 15 NOTES:

---

## SECTION 16: OTHER INFORMATION

---

### OTHER INFORMATION:

Full text of R-phrases referred to under sections 2 and 3

R25 - Toxic if swallowed

Revision Date 9/4/13

Revision Summary

Reason for revision Not applicable

Disclaimer

The information provided on 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text.