

MATERIAL SAFETY DATA SHEET

ATLAS S2

1. **CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**
ALTITUDE CROP INNOVATIONS LLC
4850 Hahns Peak Drive, Suite 200
Loveland, CO 80538

PRODUCT NAME: ATLAS S2 **EPA REG. NO.:** 89168-11-91395
CHEMICAL NAME: Clethodim (E)-2[1-[[[(3-chloro-2-propenyl)oxy]imino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one
CHEMICAL FAMILY: Herbicide
Hotline Numbers: For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2. HAZARDS IDENTIFICATION SUMMARY

KEEP OUT OF REACH OF CHILDREN – CAUTION: Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes, skin or clothing. Wash thoroughly after handling. In case of contact, wash skin with soap and water; for eyes, flush with water for 15 minutes and get medical attention.

3. COMPOSITION, INFORMATION ON INGREDIENTS

<u>Chemical Ingredients:</u>	<u>Percentage by Weight:</u>	<u>CAS No.</u>	<u>TLV (Units)</u>
Clethodim	26.4	99129-21-2	Not listed
Petroleum Hydrocarbons*	>65	64742-94-5	100ppm
*trimethylbenzene	2 - 3	-----	25ppm
*naphthalene	1 - 2	-----	10ppm

4. FIRST AID MEASURES

If in Eyes: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes then continue rinsing eye. Call a poison control center or doctor for treatment advice.

If on Skin or Clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

If Swallowed: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

If Inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for treatment advice.

Note to Physician: Contains petroleum distillate vomiting may cause aspiration pneumonia.

FOR A MEDICAL EMERGENCY INVOLVING THIS PRODUCT have the product container or label with you when calling a poison control center or doctor.

5. FIRE FIGHTING MEASURES

FLASH POINT (°F/Test Method): >141°F

FLAMMABLE LIMITS (LFL & UFL): Not established

EXTINGUISHING MEDIA: Use foam, dry chemical, carbon dioxide, water spray or fog.

HAZARDOUS COMBUSTION PRODUCTS: Toxic fumes may be emitted in a fire situation.

SPECIAL FIRE FIGHTING PROCEDURES: Evacuate area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Fire exposed containers can build up pressure and should be kept cool with water spray if possible. Explosive vapor could form from ruptured containers. Dike and collect water used to fight fire to prevent environmental damage due to run off. Foam or dry chemical fire extinguishing systems are preferred to prevent environmental damage from excessive water runoff.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Combustible Liquid. Can form explosive mixtures at temperatures at or above the flashpoint. Can burn in fire, releasing irritating and toxic gases due to thermal decomposition or combustion.

FIRE FIGHTING EQUIPMENT: Self-contained breathing apparatus with full facepiece. Full fire fighting turn-out gear (Bunker gear).

HAZARDOUS COMBUSTION PRODUCTS: Normal combustion forms carbon dioxide, water vapor and may produce oxides of sulfur, nitrogen and toxic chlorine compounds. Incomplete combustion can produce carbon monoxide.

6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: In case of leak or spill, contain material and dispose as waste. Do not contaminate any body of water. Pick up spilled liquid with absorbent material and sweep up for disposal. Place it and damaged unusable containers in a landfill appropriate for non hazardous chemical waste. Check local, state and federal

regulations for proper disposal. **NOTE:** Prevent spilled material from flowing onto adjacent land, or into municipal sewers and open bodies of water. Always wear proper protective equipment when working with the product.

7. HANDLING AND STORAGE

HANDLING: Wash hands after handling, and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

STORAGE: Store in a cool, dry place away from children and animals. Mix well before using. Keep tightly closed. Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

RESPIRATORY PROTECTION: Proper ventilation is required when handling or using this product to keep exposure to airborne contaminants below the exposure limit.

EYE PROTECTION: Wear chemical goggles or shielded safety glasses when handling and mixing product.

SKIN PROTECTION: Wear protective clothing: long-sleeved shirts and pants, shoes plus socks and chemical-resistant gloves. Always refer to the label of the pesticide(s) in the tank mix and follow the most restrictive requirements.

Personal Protective Equipment (PPE): Eye protection, long sleeved shirt and long pants, shoes plus socks and chemical resistant gloves. Follow manufacturer's instructions for cleaning/maintaining PPE. If not such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR: Dark brown liquid, mild aromatic

SPECIFIC GRAVITY (Water=1): 0.93 – 0.99 g/ml

VAPOR PRESSURE: Not established

PERCENT VOLATILE (by volume): Not established

SOLUBILITY: Emulsifies

pH: 4.3 (1%)

BULK DENSITY: 7.74 – 8.24 lbs/gal.

BOILING POINT: Not established

EVAPORATION RATE: Not established

Note: These physical data are typical values based on material tested but may vary from sample to sample.

Typical values should not be construed as a guaranteed analysis of any specific lot or as specification items.

10. STABILITY AND REACTIVITY

STABILITY: Stable

INCOMPATIBILITY: Avoid high pH materials

HAZARDOUS DECOMPOSITION PRODUCTS: May emit toxic fumes as it burns.

CONDITIONS TO AVOID: None Known

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION – Based on a technical product

Acute Oral LD₅₀: 5,000 mg/kg (female)

Eye Irritation: Causes moderate irritation

Inhalation LC₅₀: >2.00 mg/L

Carcinogenic Potential: None listed in OSHA, NTP, IARC, or ACGIH

Acute Dermal LD₅₀: >5,000 mg/kg

Skin Irritation: Causes moderate irritation

Skin sensitization: Not a contact sensitizer

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL SUMMARY: This product is harmful to fish, aquatic invertebrates, and aquatic life stages to amphibians. Do not apply directly to water, or to areas where surface water is present. Do not contaminate water when disposing of equipment washwaters. This product is not toxic to bees exposed to direct treatment.

FISH TOXICITY: (Technical)

96 hour LC₅₀, Rainbow trout - 67 mg/L

96 hour LC₅₀, Bluegill Sunfish - 120 mg/L

48 hour LC₅₀, Daphnia magna - > 120 mg/L

AVIAN TOXICITY: (Technical)

Oral LD₅₀, Bobwhite quail - > 2,000 mg/Kg

Oral LC₅₀, Bobwhite quail - > 6,000 ppm

Oral LC₅₀, Mallard duck - > 6,000 ppm

BEE TOXICITY: Not toxic, contact LD LC₅₀ - > 100 micrograms/bee

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters.

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13. DISPOSAL CONSIDERATIONS

Do not reuse product containers. Triple rinse (or equivalent), then offer for recycling at an ACRC site (go to <http://www.acrecycle.org/> for locations) or by reconditioning, or puncture and dispose of in a sanitary landfill or by other procedures approved by local, state and federal regulations.

14. TRANSPORT INFORMATION

DOT Shipping Description:

≤119 gallons - Not regulated by DOT

≥119 gallons – Combustible Liquid, N.O.S. NA 1993, (Contains Petroleum Distillates) PG III, RQ (Napthalene)

DOT HAZARD CLASS: Combustible Liquid

UN NUMBER: NA 1993 **DOT PACKING GROUP:** PG III

DOT PRIMARY/SECONDARY LABEL: None

DOT PRIMARY/SECONDARY PLACARD: COMBUSTIBLE ≥119 gallons

15. REGULATORY INFORMATION

NFPA RATINGS: Least = 0 Slight = 1 Moderate = 2 High = 3 Severe = 4

Ratings for this product: Health – 2 Flammability – 2 Instability – 1 Special Hazards – None Specified

SARA Title III Hazard Category:	Immediate	<u>Y</u>	Fire	<u>Y</u>	Sudden Release of Pressure	<u>N</u>
	Delayed	<u>Y</u>	Reactive	<u>N</u>		

Reportable Quantity (RQ) under U.S. CERCLA: Napthalene (CAS No. 91-20-3), 100 lbs. (625 gal. of product)

SARA, Title III, Section 313: Napthalene (CAS No. 91-20-3)

CA Proposition 65: Not listed

16. OTHER

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