

# SAFETY DATA SHEET

EMERGENCY CALL: 1-800-424-9300 (CHEMTREC)



## Section 1: Material and Company Identification

**Product Name:** 2,4-D Ester 4  
**EPA Reg. No.:** 83520-20  
**Chemical Class:** Phenoxy Herbicide

### Company Identification:

**TACOMA AG, LLC**

P.O. Box 14073

Durham, North Carolina 27709-9998

## Section 2: Hazards Identification

Classification in accordance with regulation HCS 29CFR §1910.1200



### WARNING

Harmful if swallowed or absorbed through skin.  
May cause skin irritation in some individuals.  
Avoid breathing vapors or mists.  
Avoid contact with skin, eyes or clothing.  
Combustible. Do not use or store near heat or open flame.

Overexposure by ingestion, inhalation, or skin absorption may cause nausea, vomiting, abdominal pain, decreased blood pressure, muscle weakness, and muscle spasms.

### Potential Health Effects:

**EYE:** May cause eye irritation.

**SKIN:** Harmful if absorbed through the skin. May cause skin irritation in certain individuals.

**INHALATION:** Harmful if inhaled. May cause irritation to the respiratory tract, headache, anesthesia, drowsiness, unconsciousness, and other effects to the central nervous system, which could be fatal.

**INGESTION:** Harmful if swallowed. The petroleum distillate, if aspirated into the respiratory system during ingestion or vomiting, may cause mild or severe pulmonary injury, which could be fatal.

**CHRONIC:** May cause liver and kidney damage. May cause reproductive and fetal effects. Effects may be delayed. Chronic exposure will cause neurological degradation

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and/or abnormalities.

**Potential Physical Hazards:** Can decompose at high temperatures forming irritating and toxic gases.

**Environmental Hazards:** Toxic to aquatic invertebrates and nontarget plants. Moderately toxic to fish. Keep out of waterways. Slightly toxic to birds and wildlife. Practically non-toxic to bees.

## Section 3: Composition/ Information on Ingredients

<u>CHEMICAL NAME:</u>	<u>CAS NO.</u>	<u>% BY WT.</u>
2-Ethylhexyl Ester of 2,4-Dichlorophenoxyacetic Acid	1928-43-4	68%
Other Ingredients: (petroleum distillates)		32%

## Section 4: First Aid Measures

### First Aid

**If swallowed:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-222-1222 for emergency medical treatment information.

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

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## Section 5: Fire-Fighting Measures

<b>FLASH POINT (method):</b>	150° F / 65.6° C (Seta Closed Cup)
<b>FLAMMABLE LIMITS:</b>	Not determined.
<b>FIRE AND EXPLOSION HAZARD:</b>	Thermal decomposition during a fire can produce fumes and irritating gases.
<b>EXTINGUISHING MEDIA:</b>	Use dry foam, dry chemical, carbon dioxide, or water spray when fighting fires involving this material. Minimize the use of water to avoid environmental contamination. Contain all runoff.
<b>FIRE FIGHTING INSTRUCTIONS:</b>	Evacuate the area and fight fire upwind from a safe distance to avoid hazardous vapors and decomposition products. Dike and collect fire-extinguishing water to prevent environmental damage with excessive water runoff.
<b>FIRE FIGHTING EQUIPMENT:</b>	Self-contained breathing apparatus with full face-piece. Full fire fighting turnout gear (Bunker gear).
<b>HAZARDOUS COMBUSTION PRODUCTS:</b>	Hydrogen chloride, carbon oxides, and nitrogen oxides.

## Section 6: Accidental Release Measures

Clean up spills immediately, observing precautions in Section 8 of this document. Isolate hazard area. Keep unnecessary personnel from entering.

<b>SMALL SPILL:</b>	Contain small spill by diking with a suitable absorbent material. Sweep up absorbed spill and place material in appropriate recovery drums for disposal.
<b>LARGE SPILL:</b>	Contain large spill by diking with a suitable absorbent material and recover for disposal. After removal, neutralize the spill area, tools, and equipment with a dilute alkaline solution (soda ash or lime) followed by an appropriate alcohol (methanol, ethanol or isopropanol). Wash the spill area, tools, and equipment with strong soap and water solution. Absorb any excess liquid and add to the recovery drums of waste already collected. Dispose all wastes as described in Section 13.

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## Section 7: Handling and Storage

Keep out of reach of children. Do not contaminate water, food or feed by storage or disposal. Combustible. Do not use or store near heat or open flame.

**HANDLING:** Use only in a well ventilated area. Wear proper safety equipment specified in Section 8 when mixing, loading or otherwise handling this product.

**STORAGE:** Keep container tightly closed when not in use. If exposed to subfreezing temperatures, the product should be warmed to at least 40°F and mixed thoroughly before using.

## Section 8: Exposure Controls/Personal Protection

**EXPOSURE LIMITS:** (8 hour TWA): 10 mg/m<sup>3</sup>.

<u>Chemical Name:</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
2-Ethylhexyl Ester of 2,4-Dichlorophenoxyacetic Acid	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Other Ingredients: (petroleum distillates)	Not Established	Not Established

### Engineering Controls Statements

**For containers of 5 gallons or more:** Do not open pour product from this container. A mechanical system (such as probe and pump or spigot) must be used for transferring the contents of this container. If the contents of a non-refillable pesticide container are emptied, the probe must be rinsed before removal. If the mechanical system is used in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4)], the handler PPE requirements may be reduced or modified as specified in the WPS.

When handlers use enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protections 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.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Applicators and other handlers must wear:** Long-sleeved shirt and long pants; Chemical-resistant gloves such as Barrier Laminate, Nitrile Rubber, Neoprene Rubber, or Viton; Shoes plus socks; Protective eyewear

**Note: For containers of over 1 gallon, but less than 5 gallons:** Mixers and loaders who do not use a mechanical system (such as probe and pump or spigot) to transfer the contents of this container must wear coveralls or chemical-resistant apron in addition to other required PPE.

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Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

## USER SAFETY RECOMMENDATIONS:

User's should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing (PPE) 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.

## Section 9: Physical and Chemical Properties

<b>Color:</b>	Transparent yellow
<b>Physical State:</b>	Liquid
<b>Odor:</b>	Pungent odor
<b>pH:</b>	3.24 (1% in water)
<b>Viscosity:</b>	12.76 cps @ 25° C; 7.00 cps @ 40° C
<b>Density:</b>	1.015 gm/cm <sup>3</sup> @ 25° C; 1.005 @ 40° C
<b>Vapor Pressure:</b>	Not established
<b>Boiling Point:</b>	Not established
<b>Solubility:</b>	Emulsifies with water.

## Section 10: Stability and Reactivity

<b>CHEMICAL STABILITY:</b>	Stable, however may decompose if heated.
<b>CONDITIONS TO AVOID:</b>	Avoid excessive heat and fire.
<b>INCOMPATIBILITY WITH OTHER MATERIALS:</b>	Avoid contact with oxidizing agents, bases and acids.
<b>HAZARDOUS DECOMPOSITION PRODUCTS:</b>	Hydrogen chloride, oxides of carbon and nitrogen, and organochlorine products.
<b>HAZARDOUS POLYMERIZATION:</b>	Product will not undergo polymerization.

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## Section 11: Toxicological Information

### ACUTE TOXICITY:

- ORAL (rat):** The oral LD<sub>50</sub> is > 1,000 mg/kg .
- DERMAL (rabbit):** The dermal LD<sub>50</sub> is > 2,000mg/kg.
- INHALATION (rat):** The inhalation LC<sub>50</sub> is > 3.0 mg/L (4 hr)
- EYE IRRITATION (rabbit):** Causes slight eye irritation.
- SKIN IRRITATION (rabbit):** Causes slight eye irritation.
- SKIN SENSITIZATION (guinea pig):** Non-sensitizer.

## Section 12: Ecological Information

**ENVIRONMENTAL SUMMARY:** This product is toxic to fish and aquatic invertebrates. Drift or runoff may adversely affect aquatic invertebrates and nontarget plants. Do not apply directly to water, 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 washwaters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a cistern or well may result in contamination of drinking water or groundwater.

**Mixing and Loading:** Most cases of groundwater contamination involving phenoxy herbicides such as 2,4-D have been associated with mixing/loading and disposal sites. Caution should be exercised when handling 2,4-D pesticides at such sites to prevent contamination of groundwater supplies. Use of closed systems for mixing or transferring this pesticide will reduce the probability of spills. Placement of the mixing/loading equipment on an impervious pad to contain spills will help prevent groundwater contamination.

**AQUATIC TOXICITY:**

LC <sub>50</sub> (96h) for Rainbow Trout:	7.2 mg/l
LC <sub>50</sub> (96h) for Bluegill Sunfish:	> 5 mg/l
LC <sub>50</sub> (48h) for Daphnia:	> 5 mg/l

**AVIAN TOXICITY:**

LD <sub>50</sub> Bobwhite Quail:	> 5,620 mg/kg
LC <sub>50</sub> (8-Day) Mallard Duck:	> 5,620 ppm

**ENVIRONMENTAL FATE:** 2,4-D has a low binding affinity in soil and sediment particles and has been detected in groundwater at approximately 15 ppb, which is well below the drinking

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water levels of concern (DWLOC). Dissipation studies indicate that 2,4-D degrades rapidly in soils by its volatility, photolysis, and aerobic environments, with a half-life in soil and water at 6 to 15 days. 2,4-D is more persistent in anaerobic aquatic environments with a half-life ranging from 41 to 333 days.

## Section 13: Disposal Considerations

Do not contaminate water, food or feed by storage and disposal.

**Pesticide Disposal:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law and may contaminate groundwater. If these wastes cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

**Container Handling: Nonrefillable container.** Do not reuse or refill this container. Offer for recycling or reconditioning, if appropriate, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**Triple rinse as follows: Containers larger than 5 gallons:** Empty the remaining contents into a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

**Pressure rinse as follows (all sizes):** Empty the remaining contents into a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container and rinse at about 40 PSI for at least 30 seconds. Drain for 10 seconds after the flow begins to drip.

**Refillable container:** Return container to point of purchase for reuse with seal intact and in salable condition. Refill this container with pesticide only. Do not reuse this container for any other purpose. Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices. After filling and before transporting, check for *leaks*. Do not refill or transport damaged or leaking container. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from the container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing process two more times.

**General:** Consult federal, state, or local disposal authorities for approved alternative procedures.

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## Section 14: Transport Information

**FOR SMALL CONTAINERS (LESS THAN 30 GALLONS):** Not regulated by DOT.

**FOR BULK CONTAINERS:**

**PROPER SHIPPING NAME:** Environmentally Hazardous Substance, Liquid, N.O.S. (2,4-dichlorophenoxyacetic acid)

**HAZARD CLASS OR DIVISION:** 9

**IDENTIFICATION NUMBER:** UN 3082

**PACKING GROUP:** PG III

## Section 15: Regulatory Information

### FIFRA INFORMATION:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under Federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for the workplace labels of non-pesticide chemicals. The following is the hazard information as required on the pesticide label:

**CAUTION.** Harmful if swallowed or absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic skin reactions in some individuals. Avoid breathing vapors or mists. Avoid contact with skin, eyes, or clothing.

Regulations under FIFRA: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/ formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

### OSHA HAZARD

**COMMUNICATION STANDARD STATUS:** Regulated

**CERCLA REPORTABLE QUANTITY:** 2,4-Dichlorophenoxyacetic acid, 2-ethylhexyl ester (100 lbs.)

### SARA TITLE III STATUS:

- 302 Extremely Hazardous Substance: Not Listed
- 311/312 Hazard Categories: Immediate health hazard  
Delayed health hazard

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- 313 Toxic Chemicals: 2,4-D
- California Proposition 65 Status: Not Listed

## Section 16: Other Information

This document is prepared pursuant to the OSHA Hazard Communication Standard (HCS) (29 CFR Part 1910.1200(g)), revised in 2012. In addition, other substances not “Hazardous” per this OSHA Standard may be listed. Where proprietary ingredient shows, the identity may be made available as provided in this standard.

**NOTICE:** The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, expressed or implied, is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer’s responsibility to ensure that its activities comply with federal, state, and local laws and regulations. See SDS for health and safety information.

**Original Date:** 11/03/2009  
**SDS Date:** 05/27/2015