

SAFETY DATA SHEET

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

Product Name: Agri Star 2,4-D Ester 700

PCP Reg. No.: 29979

Product use: Herbicide

Supplier's name and address:

Albaugh, LLC
1525 NE 36th St.
Ankeny, IA 50021
1-800-247-8013

Emergency Telephone #:
1-800-424-9300 (CHEMTREC)

SECTION 2 — HAZARDS IDENTIFICATION

Physical Hazards: None

Health Hazards:	Acute Toxicity (Oral)	Category 4
	Acute Toxicity (Inhalation)	Category 4
	Acute Toxicity (Dermal)	Category 5
	Skin Sensitizer	Category 1B

Environmental Hazards: Hazardous to aquatic environment, acute - Category 1

Signal Word: WARNING

Hazard Statements: Harmful if swallowed. Harmful if inhaled. May be harmful in contact with skin. May cause an allergic skin reaction. Very toxic to aquatic life.



Precautionary Statements: May be harmful in contact with skin. Avoid contact with skin, eyes and clothing. After use, wash hands and other exposed skin. Wear coveralls over a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. Remove and wash contaminated clothing before reuse.

Avoid breathing spray mist. Use only outdoors or in a well-ventilated area. Harmful if swallowed. Do not eat, drink or smoke when using this product.

This product contains an active ingredient and petroleum distillates which are toxic to aquatic organisms.

SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component	CAS No.	Percentage (%)
2,4-D Ethylhexyl Ester	1928-43-4	57-60%
Petroleum distillates (contains)	64742-47-8	<1%

Content Listed on Product Label
2,4-D, present as the 2-ethylhexyl ester 660 g/L

SECTION 4 – FIRST AID MEASURES

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 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 centre or doctor for treatment advice.

If Swallowed: Call a poison control center or doctor immediately for treatment advice. Do not give any liquid to the person. 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 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 centre or doctor for further treatment advice.

Take the container, label or product name and Pest Control Product Registration Number with you when calling a poison control center or doctor or going for treatment.

Do not induce vomiting. This product contains petroleum distillates. Vomiting may cause aspiration pneumonia. Treat symptomatically.

SECTION 5 – FIRE FIGHTING MEASURES

Extinguishing Media: Water fog, alcohol foam, carbon dioxide, dry chemical.

Special Firefighting Procedures: Firefighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires. Minimize and contain water runoff.

Flash Point:84°C

Conditions of Flammability:Not classed as a combustible liquid, but may burn under fire conditions.

Hazardous Decomposition Products: ...Under fire conditions, may produce gases such as hydrogen chloride, nitrogen oxides and carbon oxides.

National Fire Protection Association (NFPA) Hazard Rating:

Rating for this product: **Health: 2** **Flammability: 1** **Reactivity: 0**

Hazards Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Use safety equipment and procedures appropriate to the size of the spill. Keep unnecessary people away. Avoid runoff to natural waters and sewers. Surround and absorb spills with inert material such as perlite, sawdust, clay granules, vermiculite, sand or dirt. Contain all affected material in a closed, labeled container for proper disposal. Isolate from other waste materials. Clean contaminated area such as hard surfaces with detergent and water, collecting cleaning solution for proper disposal. Large spills to soil or similar surfaces may necessitate removal of top soil.

SECTION 7 — HANDLING AND STORAGE

Handling: Avoid contact with skin, eyes and clothing. After use, wash hands and other exposed skin. Wear coveralls over a long-sleeved shirt, long pants, socks, shoes and chemical-resistant gloves. Rinse gloves before removal. Remove and wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

Storage: Store the container tightly closed away from seeds, fertilizer, plants and foodstuffs. May be stored at any temperature. Shake well before using.

SECTION 8 — EXPOSURE CONTROLS AND PERSONAL PROTECTION

Control Parameters:

Component	TWA*	STEL*	Note
2,4-D 2-ethylhexyl ester	10 mg/m ³	20 mg/m ³	Adopted limits for 2,4-D
Petroleum distillates (contains)	1200 mg/m ³	N/E	Manufacturers recommendation, total hydrocarbon

*Time Weighted Average, 8-hour unless otherwise noted

**Short Term Exposure Level

N/E – Not Established

Engineering Controls: Use only outdoors or in a well-ventilated area.

Personal Protective Equipment: The field crew and the mixer/loaders must wear coveralls over a long sleeved shirt, long pants, chemical resistant gloves, socks, shoes and goggles or face shield during mixing/loading, cleanup and repair. When handling more than 265 kg a.e (402 L) per day, workers must also use a closed system. Rinse gloves before removal. Gloves are not required during application when applicator is in an enclosed tractor or an enclosed airplane cockpit.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Note: Physical data are typical values but may vary from sample to sample. A typical value should not be construed as a guaranteed analysis or as a specification. If no value is determined for the formulation, the value listed is the most relevant value of the predominate ingredients(s).

Physical state and appearance: Clear dark red liquid
Odor: Slight aromatic and phenolic
Odor Threshold: No data
pH: 4.0-4.5 (1% aqueous solution)
Melting Point: No data
Freezing Point: <32°F/0°C
Boiling Point: No data
Flash Point: 84°C
Evaporation Rate: No data
Flammability: No data
Explosive Limits: No data
Vapor Pressure: No data
Vapor Density: No data
Density: 1.11 to 1.15 g/cm³ @ 68°F/20°C
Solubility: Solubility in water: Emulsifies
Partition Coefficient: No data
Auto Ignition Temperature: No data

Decomposition Temperature: No data
Viscosity:..... No data

SECTION 10 — STABILITY AND REACTIVITY

Reactivity: Not reactive

Chemical Stability: Stable under normal handling and storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Excessive heat. Do not store near heat or flame

Incompatible Materials: Avoid contact with strong acidic, basic or oxidizing agents.

Hazardous Decomposition Products: Under fire conditions, may produce gases such as hydrogen chloride, nitrogen oxides and carbon oxides.

SECTION 11 — TOXICOLOGICAL INFORMATION

This section is intended for use by toxicologists and other health professionals. Data obtained on similar products and on components are summarized below.

Likely Routes of Exposure: Inhalation, ingestion, skin and eye contact.

Acute oral toxicity Rat, LD₅₀: >1,000 mg/Kg
Acute dermal toxicity Rabbit, LD₅₀: >2,000 mg/Kg
Acute inhalation toxicity Rat, LC₅₀: >2.5 mg/L
Skin irritation Rabbit: Moderate
Eye irritation Rabbit: Slight to moderate
Skin sensitization Guinea Pig: Potential sensitizer

Mutagenicity: Mixed results in animal studies but weight of evidence indicate that MCPA is not mutagenic

Chronic effects/carcinogenicity: IARC-2B (chlorophenoxy herbicides)

Toxicity to reproduction/fertility: Animal studies have noted testicular effects and lower male fertility

Developmental toxicity/teratogenicity: ... Animal studies have noted decreased fetal body weights at doses toxic to mother animals

SECTION 12 — ECOLOGICAL INFORMATION

This section is intended for use by eco-toxicologists and other environmental specialists. Data obtained on similar products and on components are summarized below.

Ecotoxicity: (Technical)

Aquatic Toxicity:

Rainbow trout:	96-Hour LC ₅₀ (mg/L)	7.2
Bluegill sunfish:	96-Hour LC ₅₀ (mg/L)	>5
Tidewater Silverside:	96-Hour LC ₅₀ (mg/L)	0.24
Daphnia:	48-Hour EC ₅₀ (mg/L)	5.2
Algae: Selenastrum	120-Hpur EC ₅₀ (mg/L)	>30
Algae: Navicula	120-Hpur EC ₅₀ (mg/L)	4.1
Algae: Skeletonema	120-Hpur EC ₅₀ (mg/L)	0.23

Avian toxicity

Bobwhite quail:	5-d Dietary LC ₅₀ (ppm).....	>5620
Mallard duck:	Oral LD ₅₀ (mg/kg)	663
	5-d Dietary LC ₅₀ (ppm).....	>5620

Arthropod toxicity:

Honey bee:	LD ₅₀ > 100 µg/bee (contact)
	LD ₅₀ > 100 µg/bee (oral)

Soil organism toxicity, invertebrates:

Earthworm:..... No data

Persistence and Degradability: In aerobic soil and water, 2,4-D 2 EH is rapidly hydrolysed to 2,4-D acid, DT₅₀ <1 day. 2,4-D is microbially degraded with typical half-life (ester and acid) of 5 to 10 days. Persistent in anaerobic environments.

Bioaccumulation Potential: Negligible.

Mobility in Soil: Moderate to high mobility potential, but rapidly degraded.

Other Adverse Effects: No data.

SECTION 13 — DISPOSAL CONSIDERATIONS

For information on disposal of unused, unwanted product, contact the manufacturer or the provincial regulatory agency. Disposal should be made in accordance with federal, provincial and local regulations.

Do not reuse container for any purpose. If applicable, return container in accordance with return program. If a recyclable container, dispose of at a container collection site. Contact local distributor, dealer or municipality for the location of the nearest collection site. Before taking the container to the collection site, triple or pressure rinse the empty container adding rinsing to spray tank and make container unsuitable for further use. If there is no container collection site in your area, dispose of the container in accordance with provincial requirements.

SECTION 14 — TRANSPORTATION INFORMATION

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

CANADA:

TDG Classification – Road/Rail:

UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S., (2,4-D Ester), Class 9, PG III
Marine Pollutant.

Section 1.45.1 of the TDG Regulations provides an exemption from documentation and safety marks only for this product and only when transported by a road or railway vehicle.

UNITED STATES:

DOT Classification:

< 18 gallons per complete package

Non Regulated – See 49 CFR 173.132(b)(3) & 172.101 Appendix A

≥ 18 but <119 gallons per complete package

UN 3082, Environmentally hazardous substance, liquid, n.o.s. (2,4-D Ester), 9, III, RQ

≥ 119 gallons per complete package

UN 3082, Environmentally hazardous substance, liquid, n.o.s. (2,4-D Ester), 9, III, RQ, Marine Pollutant

SECTION 15 — REGULATORY INFORMATION

This chemical is a pest control product registered by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. Following is the hazard information required on the pest control product label:



DANGER POISON
POTENTIAL SKIN SENSITIZER
WARNING: SKIN IRRITANT

SECTION 16 — OTHER INFORMATION

This Safety Data Sheet (SDS) is designed to comply with the Globally Harmonized System (GHS) of chemical hazard classification. The information given here is not necessarily exhaustive but is representative of relevant, reliable data. Follow all local/regional/national/international regulations.

HMIS Rating: 2 Health; 1 Flammability; 0 Reactivity

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

This Material Safety Data Sheet (MSDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE Pest Management Regulatory (PMRA)- APPROVED PRODUCT LABELING (attached to and accompanying the product container). This MSDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use, while the labeling provides that information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products are regulated by product labeling and provincial legislation, and all necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the PMRA-approved label.

Prepared by: Albaugh, LLC

Preparation date: 04/10/2019

Revision date: 04/10/2019

Revised For: Revised for GHS formatting