

**SAFETY DATA SHEET
DIRECT AG SOURCE, LLC
PERMETHRIN 3.2 AG**

1. IDENTIFICATION

PRODUCT NAME:	PERMETHRIN 3.2 AG
EPA REGISTRATION NO.	83222-3
PRODUCT TYPE:	Insecticide
CHEMICAL NAME OF ACTIVE INGREDIENT(S):	Permethrin: [3-(Phenoxyphenyl)methyl(±)cis-trans 3-(2,2 dichloroethenyl) 2,2-dimethylcyclopropanecarboxylate]
COMPANY NAME:	Direct Ag Source, LLC 30473 260 th St. Eldora, IA 50627 Phone: 1-800-424-9300
FOR MEDICAL AND CHEMICAL EMERGENCIES, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT, CALL CHEMTREC:	Phone: 1-800-222-1222
FOR EMERGENCY MEDICAL TREATMENT INFORMATION, CALL NATIONAL POISON CONTROL CENTER:	Phone: 1-800-858-7378
FOR PRODUCT INFORMATION, CALL NATIONAL PESTICIDE INFORMATION CENTER:	

2. HAZARDS IDENTIFICATIONS

THE FOLLOWING HAZARDS ARE IDENTIFIED ACCORDING TO OSHA HCS CLASSIFICATION (29 CFR 1910.1200). SEE SECTION 15 FOR FIFRA INFORMATION.

HAZARD CLASSIFICATIONS:

Acute oral toxicity: Category 4
Eye irritation: Category 2B
Skin irritation: Category 2
Flammable liquid: Category 4
Carcinogenicity – Category 2
Aspiration - Category 1

SIGNAL WORD: Danger

HAZARD STATEMENTS:

- Harmful if swallowed.
- Harmful if contact with skin
- Cause eye irritation
- Combustible liquid
- Suspected of causing cancer (Naphthalene CAS No. 91-20-3)
- May be fatal if swallowed and enter airways (Aromatic hydrocarbon CAS No. 64742-94-5)
- Very toxic to aquatic life.

PICTOGRAMS:



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PRECAUTIONARY STATEMENTS:

- Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. If swallowed: Call a poison center if you feel unwell. Rinse mouth.
- Wash hands thoroughly after handling. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice. Wear protective gloves and clothing. If on skin, wash with plenty of water. Call a poison center if you feel unwell. Take off contaminated clothing and wash it before reuse.
- Wear protective gloves. If on skin: Wash with plenty of water. Call a poison center or a doctor if you feel unwell. Take off contaminated clothing and wash it before reuse.
- Keep away from heat and open flames, no smoking. Wear protective gloves, eye and face protection. In case of fire: Use water fog, CO₂, foam or dry chemical to extinguish.
- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, clothing, and eye and face protection.
- If swallowed, immediately call a poison center or a doctor. Do not induce vomiting.

Contact CHEMTREC for emergency medical treatment at 1-800-424-9300.

PHYSICAL AND CHEMICAL HAZARDS: Do not use or store near heat or open flame.

STORAGE AND DISPOSAL: See Section 7 and 13.

OTHER HAZARDS: See Section 11 and 12.

3. COMPOSITION/INFORMATION ON INGREDIENTS

ACTIVE INGREDIENT	CAS NO.	%
Permethrin	52645-53-1	36.8
Aromatic hydrocarbon containing:	64742-94-5	55.6
Naphthalene	91-20-3	
1, 2, 4 – Trimethyl benzeze	95-63-6	

4. FIRST AID MEASURES

FIRST AID	
IF SWALLOWED:	<ul style="list-style-type: none"> • Immediately call a poison control center or doctor. • Do not give any liquid to a person. • Do not induce vomiting unless told to do so by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> • 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:	<ul style="list-style-type: none"> • 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 INHALED:	<ul style="list-style-type: none"> • 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 person control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency medical assistance, call the Rocky Mountain Poison control center at 1-866-767-5089.

FOR CHEMICAL EMERGENCY: Spill leak, fire, exposure, or accident, call CHEMTREC 1-800-424-9300.

NOTE TO PHYSICIAN: Contains petroleum distillates – vomiting may cause aspiration pneumonia.

5. FIRE FIGHTING MEASURES

FLASH POINT: 73°C (164°F)

AUTOIGNITION TEMPERATURE: Not available

FLAMMABLE LIMITS: Not applicable

EXTINGUISHING MEDIA: Foam, carbon dioxide (CO₂), dry chemical. Soft stream water fog only if necessary. Contain all runoff.

FIRE/EXPLOSION HAZARD: Combustible material NOTE: check that all equipment is properly grounded and installed to satisfy electrical classification requirements. As with any dry material, pouring this material or allowing it to free-fall or be conveyed through chutes or pipes can accumulate and generate electrostatic sparks, potentially causing ignition of the material itself, or any flammable materials which may come into contact with the material or its container. Keep product and empty container away from heat and sources of ignition.

FIRE FIGHTING PROCEDURES: Isolated fire area. Evacuate downwind. Wear full protective clothing and self contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide (CO₂), aldehydes, hydrogen chloride, chlorine.

6. ACCIDENTAL RELEASE MEASURES

ACTION TO TAKE FOR SPILLS/LEAKS: In case of spill, avoid contact, isolate area and keep out animals and unprotected persons. To confine spill, dike surrounding area or absorb with sand, cat litter, commercial clay or gel absorbents. If dry materials, cover to prevent dispersal. Place damaged package in a holding container. Identify contents.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING: Keep out of reach of children and animals. Carefully open containers. After partial use, replace lids and close tightly. Do not put concentrate or dilute material into food or drink containers. If feasible, shake container well before using. If crystals form, warm to room temperature by placing container in a rood at ambient temperature 70°F (21°C) until crystals dissolve.

PRECAUTIONS TO BE TAKEN IN STORAGE: Store in a cool, dry place at temperatures above 40°F (5°C). Store in original containers only.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL PROTECTIVE MEASURES: Wash thoroughly with soap and water after handling. Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry.

Pesticide applicator and workers must refer to product labeling and directions for use in accordance with EPA worker protection standard 40 CFR Part 170.

SKIN/HAND PROTECTION: Wear chemical-resistant protective long-sleeved shirt, long pants, and gloves. Shoes plus socks.

EYE/FACE PROTECTION: For splash, mist or spray exposure, wear protective eyewear.

RESPIRATOR REQUIREMENTS: Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Full facepiece equipment is recommended and, if used, replaces need for face shield and/or chemical goggles. If exposures cannot be kept at a minimum with engineering controls, consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use and approved full face positive-pressure, self-contained breathing apparatus. Respiratory protection programs must comply with 29 CFR 1910.134.

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USER SAFETY RECOMMENDATIONS:

Users 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 clothing immediately after handling this product. Wash outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

ENGINEERING CONTROLS: Use local exhaust at all process locations where vapor or mist may be emitted. Ventilate all transport vehicles prior to unloading.

EXPOSURE LIMITS:

Chemical Name	CAS NO.	ACGIH/TLV	OSHA/PEL
Aromatic Hydrocarbons	64742-94-5	NE	100 ppm
Naphthalene	91-20-3	10 ppm (TWA) 15 ppm (STEL) (Skin-potential for absorption)	10 ppm (TWA) 15 ppm (STEL) 50 mg/m ³ (TWA) 75 mg/m ³ (STEL)
1,2,4-trimethyl benzene	95-63-6	NE	125 mg/m ³ 25 ppm

NE: Not Established

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Light amber liquid

ODOR: Mild

FLASH POINT: 73°C (164°F)

pH: 5.74 @ 25°C

DENSITY: 1.065g/cc (8.89 lbs/gal) @ 25°C; 1.052 g/cc (8.78lbs/gal) @ 39°C

VISCOSITY: 79.8 cPs @ 25°C; 37.7 cPs @ 39°C

SOLUBILITY: NA

MISCIBILITY: N/A

BOILING POINT: N/A

VAPOR PRESSURE: N/A

10. STABILITY AND REACTIVITY

STABILITY: This product is stable under normal use and storage.

CONDITIONS TO AVOID: Keep away from open flames, hot surfaces and sources of ignition.

MATERIALS TO AVOID: Not known

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide (CO₂), aldehydes, hydrogen chloride, chlorine.

HAZARDOUS POLYMERIZATION: None under normal processing.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY/IRRITATION STUDIES:

Acute Oral LD ₅₀ (Rat):	1,030 mg/kg
Acute Dermal LD ₅₀ (Rat):	> 2,000 mg/kg
Acute Inhalation LC ₅₀ (Rat):	> 25.7 mg/L (4-hr rat)
Eye Irritation (Rabbit):	Moderately irritating
Dermal Irritation (Rabbit):	Moderately irritating
Dermal Sensitization (Guinea pig):	Not a skin sensitizer

HEALTH HAZARDS: Effects from overexposure result from ingestion or coming into contact with the skin or eyes. Symptoms of overexposure include increased hypersensitivity to touch and sound, tremors and convulsions. Contact with permethrin may produce skin sensations such as numbing, burning or tingling. These skin sensations are reversible and usually subside within 12 hours. Large, toxic doses of permethrin administered to laboratory animals have produced symptoms such as diarrhea, salivation, tremors, and

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intermittent convulsions. Overexposure to animals via inhalation has also produced hyperactivity and hypersensitivity. Exposure to aromatic hydrocarbons can irritate the skin. Vomiting after ingestion of this product may cause aspiration of aromatic hydrocarbons into the lungs that may result in fatal pulmonary edema.

TOXICOLOGICAL INFORMATION: (Based on Permethrin Technical)

TERATOGENICITY: Not a teratogen.

EMBRYO TOXICITY: None

MUTAGENICITY: None.

CARCINOGENICITY: EPA classified permethrin as “Likely to be Carcinogenic to Humans” by the oral route. This classification was based on two reproducible benign tumor types (lung and liver) in the mouse, equivocal evidence of carcinogenicity in Long-Evans rats, and supporting structural activity relationships (SAR) information. (EPA 2009 Permethrin RED)

Chemical Name	ACGIH	IARC	NTP	OSHA
Permethrin		Group 3*		
Naphthalene		2B	2	

IARC Group 3: The agent (mixture, or exposure circumstance) is unclassifiable as to carcinogenicity to humans.

Group 2B: Substances that may reasonably be anticipated to be carcinogens.

NPT Group 2: Substance is possibly carcinogenic to humans.

ASPIRATION: Aromatic hydrocarbon – May be fatal if swallowed and enters airways. Based on physic-chemical properties of the material.

SPECIFIC TARGET ORGAN TOXICITY (STOT): Aromatic hydrocarbon – single exposure may cause drowsiness or dizziness.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL HAZARDS: This pesticide is extremely toxic to aquatic organisms including fish and invertebrates. 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 apply when weather conditions favor drift from treated areas. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwaters.

Under some conditions, it may also have the potential for transport into surface water in runoff (primarily adsorbed to suspended soil particles), for several months or more after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, and areas overlying extremely shallow groundwater, areas with in-field canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas overlying tile drainage systems that drain to surface water.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this pesticide to or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notify the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

ECOTOXICITY INFORMATION :

Unless indicated, the information presented below is for the active ingredient, permethrin.

PHYSICAL/ENVIRONMENTAL PROPERTIES:

In soil, permethrin is stable over a wide range of pH values. When applied at agricultural use rates, permethrin is a moderate rate of degradation in soil. At termiticidal use rates, permethrin degrades at a slower rate, which is governed by soil characteristics. Due to its high affinity for organic matter ($K_{oc}=86,000$), there is little potential for

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movement in soil or entry into ground water. Permethrin has a Log P_{ow} of 6.1, but a low potential to bioconcentrate (BCF = 500) due to the ease with which it is metabolized.

ENVIRONMENTAL TOXICOLOGY:

Permethrin is highly toxic to fish (LC_{50} = 0.5ug/L to 315 ug/L) and aquatic arthropods (LC_{50} = 0.02 ug/L to 7.6 ug/L). Marine species are often more sensitive than the freshwater species. Bacteria, algae, mollusks and amphibians are much more tolerant of permethrin than the fish and arthropods. Care should be taken to avoid contamination of the aquatic environment. Permethrin is slightly toxic to birds and oral LD_{50} values are greater than 3,600 mg/kg. Longer dietary studies showed that concentrations of up to 500 ppm in the diet had no effect on bird reproduction.

13. DISPOSAL CONSIDERATIONS

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. 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 of the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Dispose of product containers, waste containers, and residues according to label instructions and local, state, and federal health and environmental regulations.

14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

Non-bulk: Not Regulated
Bulk : NA 1993, Combustible Liquid (contains hydrocarbon solvent), PG III

INTERNATIONAL TRANSPORTATION:

IMO (vessel): Contact registrant.
IATA (air): Contact registrant.

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 for safety data sheet, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label.

WARNING Causes skin irritation. Do not get on skin or clothing. Harmful if swallowed. Harmful if absorbed through skin. Causes moderate eye irritation. Avoid contact with eyes. Harmful if inhaled. Avoid breathing vapor or spray mist.

SARA TITLE III CLASSIFICATION:

Section 302: Not applicable.
Section 311/312: Acute health hazard (immediate)
Delayed health hazard (chronic)
Fire hazard
Section 313: Permethrin (36.8%) CAS #:52645-53-1
Naphthalene CAS # 91-20-3
1,2,4-trimethyl benzene CAS #: 95-63-6

CERCLA RQ: Naphthalene RQ=100 lbs

RCRA CLASSIFICATION: Under RCRA, it is the responsibility of the product user to determine at the time of disposal, whether a material containing the product or derived from the product should be classified as a hazardous waste.

TSCA STATUS: All ingredients are listed on the TSCA inventory or are not required to be listed on the TSCA inventory.

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CA PROPOSITION 65: This product contains a chemical (Naphthalene) known to the State of California to cause cancer.

STATE RIGHT-TO-KNOW:

Naphthalene (CAS No. 91-20-3) – IL, MN, NJ, PA, RI

1, 2, 4 – Trimethyl Benzene (CAS No. 95-63-6) – IL, MN, NJ, PA, RI

16. OTHER INFORMATION

NFPA HAZARD RATINGS	NFPA		
HEALTH:	2	0	MINIMAL
FLAMMABILITY:	2	1	SLIGHT
REACTIVITY:	0	2	MODERATE
		3	HIGH
		4	SEVERE

SDS DATE: 4-27-2015. Supersede version dated 1-15-2013. Changes made to all sections.

The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express 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, or provincial, and local laws.