



SAFETY DATA SHEET

SDS ID: 74530-63

1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	ZONE 4F
Product use / type:	Herbicide
Uses advised against / restrictions:	See label.
EPA Registration No.:	74530-63
Chemical name / synonym / active ingredient(s):	N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]-methanesulfonamide (Sulfentrazone)
Manufacturer / Registrant:	Helm Agro US, Inc. 401 E. Jackson St., Suite 1400 Tampa, FL 33602
Manufacturer's Telephone:	813-621-8846
Email:	info@helmagro.com
Chemical emergencies:	1-800-424-9300 (Chemtrec)

2. HAZARDS IDENTIFICATION

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200).

Classification

Acute toxicity – oral	Category 4
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EMERGENCY OVERVIEW

Signal Word: WARNING

Pictogram:



Appearance: Opaque, off-white

Physical state: Liquid

Odor: Sulfur-like

Hazard Statements:

- Harmful if swallowed.

Precautionary Statements:

- Wash hands and face thoroughly after handling.
- Do not eat drink or smoke when using this product.
- IF SWALLOWED: Call a poison control center/doctor or if you feel unwell. Rinse mouth.
- Get medical advice/attention if you feel unwell.
- Dispose of contents/container in accordance with local/state/federal regulations.

ZONE 4F

Other Information / Potential Hazards:

May cause slight skin irritation.

Toxic to aquatic life.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %
N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]-methanesulfonamide	122836-35-5	39.6
Other ingredients	-	60.4

*Values are not product specifications.***4. FIRST AID MEASURES**

If swallowed:	<ul style="list-style-type: none"> • 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 a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If inhaled:	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or get medical help, then give artificial respiration, preferably with the aid of a pocket mask equipped with a one-way valve. • Call a poison control center or doctor for further treatment advice.
If in Eyes:	<ul style="list-style-type: none"> • Hold eye open and rinse 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:	<ul style="list-style-type: none"> • Remove contaminated clothing and shoes. • Rinse skin with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
First Aid Note:	<ul style="list-style-type: none"> • Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
Note to Physician:	Treatment is controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE-FIGHTING MEASURES**Flammable properties:** Not flammable.**Extinguishing media:** Water fog, dry chemical, foam or CO₂

SAFETY DATA SHEET

SDS ID: 74530-63

ZONE 4F

Unsuitable extinguishing media:	High pressure water streams.
Specific material hazards	Thermal decomposition may emit irritating and toxic gases and vapors.
Firefighting measures:	Use extinguishing media appropriate for surrounding fire. Prevent contaminated firefighting waters and spillage from entering sewers, drains and waterways.
Protective equipment and precautions for firefighters:	Wear full protective firefighting gear including self-contained breathing apparatus pressure demand (MSHA/NIOSH approved or equivalent).
Hazardous decomposition products:	Oxides of carbon and nitrogen. May release irritating and toxic vapors due to thermal decomposition.

6. ACCIDENTAL RELEASE

Personal precautions:	Isolate and post spill area. Wear protective gloves / clothing and eye protection. Avoid contact with eyes, skin and clothing. Ensure adequate ventilation.
Environmental precautions:	Prevent further spillage if safe to do so. Prevent entry into waterways, lakes, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. If spill is on soil near desirable trees or plants remove top soil after initial clean-up.
Methods for containment:	Dike to contain spill with inert material (e.g. sand, silica gel, or binder) for transfer to disposal containers.
Methods for cleanup:	Pick up and transfer to properly labeled containers for disposal. Thoroughly clean tools and contaminated surfaces with bleach solution and soap. Place rinse waters into disposal containers.

0. HANDLING AND STORAGE

Precautions for safe handling:	Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product.
Precautions for safe storage:	Store and handle in accordance with good industrial hygiene practices. Keep container tightly closed. Store in a cool and well-ventilated place.
Incompatible storage situations:	Separate pesticides during storage to prevent cross-contamination of other pesticides, fertilizers, food, and feed.

1. EXPOSURE CONTROL / PERSONAL PROTECTION

SAFETY DATA SHEET

SDS ID: 74530-63

ZONE 4F

Exposure Guidelines:

Commercial applicators and/or on-farm applications should refer to the product label for personal protection equipment.	
Control Parameters:	This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
Engineering controls:	Emergency eye wash/drench in work area. Shower or suitable water supply near the work area. Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	
Eye / face protection:	Safety glasses with side-shields. If splashing is likely to occur, wear chemical tight goggles.
Body / skin protection:	Long sleeved shirt, long pants, shoes plus socks. Wash work clothing before reuse.
Hand protection:	Wear gloves / hand protection.
Respiratory protection:	If handling without sufficient ventilation, wear a dust / mist filtering respirator with organic cartridge(s) or pesticide rated filters.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Appearance:	Opaque, off-white
Odor:	Sulfur-like
pH:	4.85 (1% w/v aqueous suspension)
Melting point:	Not applicable
Flash point:	Not flammable
Relative density:	1.18 g/ml at 20° C
Water solubility:	Miscible - dispersible
Vapor pressure:	Not applicable
Log pow:	Not applicable

10. STABILITY AND REACTIVITY

Reactivity / chemical stability:	Stable under normal temperature and conditions.
Conditions / Materials to avoid:	Extreme temperatures.
Hazardous decomposition products:	Oxides of carbon, nitrogen, sulfur and hydrogen chloride.
Hazardous reactions:	Not expected under normal conditions of handling and use.

ZONE 4F

11. TOXICOLOGICAL INFORMATION**Product toxicology:**

Acute oral LD₅₀:	Rat =1750 mg/kg
Acute dermal LD₅₀:	Rat >5000 mg/kg
Acute inhalation LC₅₀:	Rat >5.05 mg/L
Eye irritation:	Not an eye irritant.
Skin irritation:	Slightly irritating.
Sensitization:	Not a sensitizer.

Component toxicology:

Sulfentrazone (122836-35-5)

Acute oral LD₅₀:	Rat =3129 mg/kg
Acute dermal LD₅₀:	Rat >5000 mg/kg
Acute inhalation LC₅₀:	Rat >5.13 mg/L

Carcinogenicity: No component of this product present at levels greater than or equal to 0.1% are listed with NTP, IARC or OSHA.

12. ECOLOGICAL INFORMATION

Environmental Hazards:	Toxic to aquatic life. Keep out of any body of water.
Ecotoxicity:	
Sulfentrazone (122836-35-5)	96-hour LC ₅₀ : 120 mg/L <i>Onchorhynchus mykiss</i> 96-hour LC ₅₀ : 93.8 mg/L <i>Lepomis macrochirus</i> 48-hour EC ₅₀ : 60.4 mg/L <i>Daphnia magna</i>
Persistence and degradability:	Sulfentrazone a.i. is subject to photolysis (half-life < 12 hours).
Bioaccumulation:	Sulfentrazone has low potential for bioaccumulation.
Mobility:	Sulfentrazone has potential to leach into ground water.

0. DISPOSAL

Product disposal:	Wastes resulting from the use of this product that cannot be used must be disposed in accordance with applicable Federal, State or local regulations at an approved waste disposal facility.
Container disposal:	Emptied container retains product residue. Observe all labeled safeguards until container is destroyed or offered for recycling. Clean container promptly after emptying.

1. TRANSPORT INFORMATION

U.S. DOT: Not regulated.

2. REGULATORY INFORMATION

SAFETY DATA SHEET

SDS ID: 74530-63

ZONE 4F

U.S. Federal Regulations:

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 workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

Signal word: Caution

EPA Registration No.: 74530-63

Hazards to Humans and Domestic Animals

Harmful if swallowed, inhaled or absorbed through skin. Causes moderate eye irritation. DO NOT breathe vapor or spray mist. DO NOT get on skin, in eyes or on clothing.

Environmental Hazards

This pesticide is toxic to marine /estuarine 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. Drift and runoff may be hazardous to terrestrial and aquatic plants adjacent to treated areas. DO NOT contaminate water when disposing of equipment washwaters or rinsate.

TSCA: Product is exempt from TSCA chemical inventory; regulated under FIFRA.
SARA 311/312: Acute, health hazard.
SARA 313: None listed.
CERCLA: None listed.

U.S. State Regulations:

State Right-to-Know Regulations:

Component	MA	NJ	PA	NY
Propylene glycol (57-55-6)	X	X	X	

California Proposition 65: This product does not contain substances known to the state of California to cause cancer and/or reproductive/developmental effects.

16. OTHER INFORMATION

NFPA Ratings:	Health	Fire	Instability
	1	0	0

Revision No.: 1.0
Revision Date: 08 April 2016
Revision Note: Initial release

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; CST - Centistokes; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; GHS - Global Harmonized System;

SAFETY DATA SHEET

SDS ID: 74530-63

ZONE 4F

IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL – Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; MAK – Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Association; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other information / Disclaimer

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE, except that the product shall conform to contracted specifications, and that the product does not infringe any valid United States or Canadian patent. No claim of any kind shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

End of Safety Data Sheet