



SAFETY DATA SHEET (SDS) ID: EPA Reg. No. 74530-63, HELM SULFENTRAZONE 4F

SECTION 1: Product and Company IDs

Product name: HELM SULFENTRAZONE 4F, a.k.a. "ZONE 4F"
Product use / type: Herbicide
Restrictions on use: See product label.
SDS ID: EPA Reg. No.: 74530-63
Chemical name / active ingredients: See Section 3.
Manufacturer / Registrant Info:
 HELM Agro US, Inc. 401 E. Jackson St.
 Suite 1600, Tampa, FL 33602
 (813)-621-8846, info@helmagro.com
Chemical Emergency Number: 1-800-424-9300 (Chemtrec)

SECTION 2: Hazard Communication

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

Signal Word: Warning. **Pictograms:**



Acute Toxicity, Oral

Category 4

Hazard Statements:

- Harmful if swallowed.
- May cause skin irritation.

Precautionary Statements:

- Refer Section 4, First Aid Measures. If swallowed, get medical attention immediately.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood. No contaminated clothing in workplace.
- Wash thoroughly after handling. May cause skin irritation.
- Avoid breathing mist/vapors/spray.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Do not eat drink or smoke when using this product.
- Wear protective gloves/eye protection.
- Use only outdoors or in a well-ventilated area.
- Wear respiratory protection.
- If experiencing respiratory symptoms: Immediately call a poison center.
- If exposed or concerned, get medical attention. Call POISON CENTER or doctor/physician if you feel unwell.
- Refer Sections 7 and 13. Store locked up.

Other Information / Potential Hazards:

- Toxic to aquatic life. Keep out of any body of water.

SECTION 3: Ingredient Composition

Chemical Name	CAS #	% Composition (exact values may be withheld as trade secrecy)
N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]-methanesulfonamide (Sulfentrazone)	122836-35-5	39.6
Other:	N/R as trade** secrecy	30-60**

** Values are not product specifications.

SECTION 4: First Aid Measures

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 a poison control center or doctor. Do not give anything by mouth to an unconscious person. **If on skin or clothes:** Wash and remove contaminated clothing and shoes. Wash before reuse. Rinse skin immediately with plenty of water for 15 or 20 minutes. Call a poison control center/doctor for treatment

advice. Sensitized persons should avoid reuse. **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 inhaled:** 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. **First Aid Note:** Have this safety data sheet, the product container or label with you when calling a poison control center or doctor or going for treatment. **Physician:** Treat symptomatically.

SECTION 5: Fire Fighting Measures

Flammable properties: Not flammable. **Flash point:** N/A. **Extinguishing media:** Water fog, dry chemical, foam or CO2. **Unsuitable extinguishing media:** High pressure water streams. **Firefighting measures:** Evacuate area. Use extinguishing media appropriate for surrounding fire. Prevent contaminated firefighting waters and spillage from entering sewers, drains and waterways. Contain run-off water with temporary dike. Prevent use of contaminated buildings, area and equipment until decontamination. **Protective equipment and precautions for firefighters:** Wear full protective firefighting gear including self-contained breathing apparatus pressure demand (MSHA/NIOSH approved or equivalent). Decontaminate equipment after use. **Hazardous decomposition products:** Oxides of carbon and nitrogen. May release irritating and toxic vapors due to thermal decomposition.

SECTION 6: Accidental Release Measures

Personal precaution: Isolate and post, and clean spill area. Keep unnecessary personnel, pets and livestock from spill area. Wear protective gloves / clothing and eye protection. Avoid breathing, wear protection. Avoid contact with eyes, skin and clothing. Ensure adequate ventilation. See section 8 for personal protective equipment. **Environmental precautions:** Prevent further spillage if safe to do so. Prevent entry into waterways, sewers, basements, or confined areas. Do not flush into surface water or sanitary sewer system. Avoid unintentional releases to the environment. Do not flush into surface water or sanitary sewer system. Report spills as required by local and federal regulations. If spill is on soil near desirable trees or plants remove topsoil after initial clean-up. **Methods for containment:** Contain spill with inert material (e.g.sand, silica gel, binder). **Methods for cleanup:** Pick up absorbent by shovel and transfer to properly labeled containers for disposal in accordance wither regulations. Thoroughly clean tools and contaminated surfaces with bleach solution and soap. Place rinse waters into disposal containers. Observe label for further safeguards, containment, and disposal.

SECTION 7: Handling and Storage

Precautions for safe handling: Wear protective attire. Use only outdoors and with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mist. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid contamination of work clothing; remove and clean after handling. **Precautions for safe storage:** Store and handle in accordance with good industrial hygiene practices. Keep container tightly closed. Store in original container in a cool, dry and well-ventilated place away from children and animals. Keep away from incompatible materials, heat, and direct sunlight. **Incompatible storage situations:** Store product in original container only. Keep container closed when not in use, away from food or feed, fertilizer and other pesticides. Do not put formulation or spray solution in food or drink containers. Store in a cool, dry place and avoid excess heat. Protect container from physical damage. Do not contaminate water, food or feed by storage or disposal or cleaning of equipment.

SECTION 8: Exposure Control / Protection

The following recommendations for exposure controls and personal protection are intended for the manufacture, formulation, and packaging of this material. All forms of application should refer to the product label for personal protection equipment. This product does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies. Refer to label for personal protection equipment.

Engineering controls: Emergency eye wash/drench. Shower or suitable water supply near the work area. Ensure adequate ventilation or provide local exhaust, especially in confined areas **Personal protective equipment eye/face protection:** Safety glasses with side-shields. If potential for eye contact to occur, wear chemical tight goggles and/or face shield. **Body/skin protection:** Long sleeved shirt, long pants, shoes plus socks. Applicators must wear chemical



resistant clothing and footwear plus socks. Wash work clothing before reuse. Launder separately from other laundry. Discard heavily contaminated work clothing. **Hand protection:** Wear chemical resistant gloves / hand protection. **Respiratory protection:** If handling without sufficient ventilation or excess airborne exposure, wear a dust/mist filtering respirator with organic cartridge(s) or pesticide rated filters. Consult personal protective equipment manufacturers recommendations for cleaning and maintenance.

SECTION 9: Physical & Chemical Properties

Physical state: Liquid. **Appearance:** Opaque, off-white. **Odor:** Sulfur-like. **pH:** 4.85 (1% solution). **Melting point:** N/A. **Boiling point:** N/A. **Flash point:** Not flammable. **Explosive properties:** N/A. **Autoignition temperature:** No information available. **Oxidizing properties:** No information available. **Relative density:** 1.18 g/mL. **Water solubility:** Miscible, dispersible. **Vapor pressure:** N/A. **Viscosity:** N/A. **Partition coefficient:** N/A. **Other as commonly listed:** No info available.

SECTION 10: Stability & Reactivity

Reactivity / chemical stability: None expected. Stable under normal temperature and conditions. **Conditions / Materials to avoid:** Extreme heat, sparks, incompatible agents, strong oxidizers. **Hazardous decomposition products:** Oxides of carbon, nitrogen, sulfur and hydrogen chloride. **Hazardous reactions:** Not expected under normal use.

SECTION 11: Toxicological Information

See Section 4 for information on likely routes of exposure and effects. Harmful if inhaled. Causes transient eye irritation. **Product numerical measures of toxicological effects:** **Acute oral LD50:** Rat LD50: 1750 mg/kg. **Acute dermal LD50:** Rat LD50: >5000 mg/kg. **Acute inhalation LC50:** Rat LC50: >5.05 mg/l. **Eye irritation:** Not expected to cause eye irritation. **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. **Germ cell mutagenicity:** Not listed.

SECTION 12: Ecological Information

Toxic to aquatic life. Keep out of any body of water. **Ecotoxicity:** Sulfentrazone (122836-35-5), 96-hour LC50: 120 mg/L *Onchorhynchus mykiss*, 96-hour LC50: 93.8 mg/L *Lepomis macrochirus*, 48-hour EC50: 60.4 mg/L *Daphnia magna*. **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.

SECTION 13: Disposal Information

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. Keep out of drains, sewers, ditches and water ways. Do not dispose of into environment. **Container disposal:** Emptied container retains product residue. Observe all labeled safeguards until container is destroyed or offered for recycling. Clean container promptly after emptying.

SECTION 14: Transport Information

Not subject to U.S. DOT regulation. **IMDG, IATA :** UN3082, Environmentally hazardous substance, liquid, n.o.s. (Sulfentrazone), 9, III; Marine Pollutant, IMDG Special Provisions: 274, 335. IATA Special Provisions: A97, A158, A197.

SECTION 15: Regulatory 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 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.

Read EPA registered product label and advisories, EPA Registration No.: 74530-63. Refer any advisories.

SARA 311/312 Hazard Categories: Acute health. Refer Section 2. **SARA 313:** None listed. **CERCLA:** None listed. **TSCA:** Components listed or exempt. **Clean Water Act:** N/A. **Proposition 65 (California):** This product contains no substance(s) known to the state of California to cause cancer and/or reproductive/developmental effects. **Other:**

State Right-to-Know Regulations:

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

SECTION 16: Other Information

NFPA Ratings:	Health = 1	Fire = 0	Instability = 0
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Acronyms which may or may not be referenced: 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; FIFRA - Federal Insecticide, Fungicide and Rodenticide Act; GHS - Global Harmonized System; 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; MP - Marine Pollutant; 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.

Revision Date: December 7th, 2023. **Revision no. 1. Reason for Revision:** SDS review and truncate. Confirm/Update Sections 2, 14, 15. Review, truncate, and/or update Sections. Address change. Other edits/updates.

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