



SAFETY DATA SHEET (SDS) ID: EPA Reg. No. 74530-95, ZONE MAXX Herbicide

SECTION 1: Product and Company IDs

Product name: ZONE MAXX Herbicide
Product use / type: Herbicide
Restrictions on use: See product label. Refer Section 15.
SDS ID: EPA Reg. No.: 74530-95
Chemical name / active ingredients:

- Sulfentrazone, CAS# 122836-35-5
- Chlorimuron ethyl, CAS# 90982-32-4

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:**



Eye Damage / Irritation: Category 2B
Acute Oral Toxicity: Category 4

Hazard Statements:

- Harmful if swallowed.
- Causes eye irritation. May cause nose/throat/respiratory tract irritation. May cause skin irritation.
- May form combustible dust concentrations in air.

Precautionary Statements:

- Do not eat drink or smoke when using this product.
- Wash face, hands, and skin thoroughly after handling.
- Contaminated work clothing should not be allowed out of the workplace.
- Wear protective gloves/eye/clothing and face protection.
- 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 attention. IF SWALLOWED: Call a poison control center or if you feel unwell. Rinse mouth.
- See Section 4:** IF SWALLOWED, IF ON SKIN: IF INHALED: IF IN EYES: Call POISON CENTER or doctor if you feel unwell.
- Wash contaminated clothing before reuse.
- Store locked up. Dispose of contents/container in accordance with local/state/federal regulations.

Other Information / Potential Hazards:

- Very toxic to the aquatic environment with long lasting effects.

SECTION 3: Ingredient Composition

Chemical Name	CAS #	% Composition <small>(*exact values may be withheld as trade secrecy)</small>
Sulfentrazone; 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	62.2
Chlorimuron ethyl; Ethyl-2-[[[(4-chloro-6-methoxyprimidin-2-yl)amino]carbonyl]-amino]sulfonyl]benzoate	90982-32-4	3.9
Other: ammonium sulfate, CAS # 7783-20-2, sodium dodecyl sulfate, CAS # 151-21-3	Listed and/or not required as trade secrecy	Up to 33.9%**

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. 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. **Most Important Symptoms & Effects, Acute and Delayed:** May cause moderate eye irritation. Inhalation of dust may cause irritation of the nose, throat and upper respiratory irritation. Harmful if swallowed. **Physician:** Protect self. Treat symptomatically.

SECTION 5: Fire Fighting Measures

Flammable properties and/or Combustible properties: May form combustible dust concentrations in air. **Extinguishing media:** Make determination if water fog, dry chemical, alcohol resistant foam or CO2. **Unsuitable extinguishing media:** High pressure water streams. **Do not use solid water jet as that may create a dust cloud that can present an explosion hazard.** **Firefighting measures:** Use extinguishing media appropriate for surrounding fire. Prevent contaminated firefighting waters and spillage from entering sewers, drains and waterways. Caution for slip hazards. **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; other:** Dust generated in handling this material may present a potential fire and explosion hazard if suspended in air at high concentrations. Settled dust presents a fire hazard. Resuspension of the dust into the air by vibration, traffic, material handling, etc. in high concentrations in the presence of an ignition source could result in a dust explosion. Minimize the generation and accumulation of dust. **Thermal decomposition:** May produce oxides of carbon, nitrogen, and sulfur, hydrogen chloride, and hydrogen fluoride.

SECTION 6: Accidental Release Measures

Personal precautions: Isolate and post spill area. Keep unnecessary personnel, pets and livestock from spill area. Wear protective gloves / clothing and eye protection. Avoid contact with eyes, skin and clothing. Ensure adequate ventilation. Avoid generating and breathing air-borne dust. Remove all ignition sources such as open flames, spark producing equipment, pilot lights, etc. Powders that become wet may cause surfaces to be extremely slippery and present a slip hazard. **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. Under certain conditions this chemical can leach through soil and contaminate ground water. Report spill. **Methods for containment:** Contain spill with inert material (e.g. sand, silica gel, binder). Prevent formation of dust with water mist or moist sweeping compound. **Methods for cleanup:** Scoop or shovel up using methods that minimize the generation of airborne dust and place into a closable, labeled container for disposal. Avoid generating airborne dust. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Wash spill area with water. Do not contaminate water when disposing of equipment wash water or rinseate.

SECTION 7: Handling and Storage

Precautions for safe handling: Wear protective attire. Only protected handlers allowed. Use only with adequate ventilation. Avoid breathing dusts/mists/granules. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product. Avoid contamination of work clothing. Refer label. **Precautions for safe storage:** Store and handle in accordance with good industrial hygiene practices. Keep container tightly closed and do not reuse. Store in a cool, dry and well-ventilated place away from children and animals. Do not store below 30°F degrees. **Incompatible storage situations:** Separate pesticides during storage to prevent cross-contamination of other pesticides, fertilizers, food, water, feed. Possible combustible dust hazard. Minimize the generation and accumulation of dust. Keep dust away from heat, sparks, flames and all other sources of ignition. Follow good housekeeping practices to keep surfaces free from settled dust. Keep containers closed when not in use. Refer product label for additional information on use and handling.

SECTION 8: Exposure Control / Protection

Exposure Guidelines: Sulfentrazone & sodium dodecyl sulfate & chlorimuron ethyl listed as none established. Ammonium Sulfate (as PNOC) listed as 5 mg/m3 (respirable fraction), 15 mg/m3 (total dust) TWA OSHA PEL. **Engineering controls:** If use generates dust, use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits. It is recommended that all



dust control equipment such as local exhaust ventilation and material transport systems involved in handling this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks. Refer product label for additional information. **Individual Protection Measures, Such As Personal Protective Equipment: Respiratory Protection:** In operations where exposure levels are excessive, an approved respirator with dust/mist cartridges or filtering facepiece should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice. Refer product label for additional information. **Skin Protection:** Use chemical-resistant gloves (barrier laminate, butyl or nitrile rubber, natural rubber, polyvinyl chloride, or viton) to prevent skin contact. **Eye Protection:** Protective eye wear such as chemical safety goggles or dust goggles are recommended to prevent eye contact. **Other:** Impervious clothing such as long-sleeved shirt, long pants, coveralls, and shoes plus socks are required to prevent skin contact and contamination of personal clothing. Washing facilities should be available in the work area.

SECTION 9: Physical & Chemical Properties

Physical state: Solid granule. **Appearance:** Brown. **Odor:** Mildly bitter. **pH:** 4.93 (1% dispersion). **Melting pt. & boiling pt.:** N/A. **Flash point:** Not applicable. **Flammability:** Yes, solid flammable as combustible dust; flammable limits not listed. **Relative density:** 0.563 g/cm³ indoor ambient. **Water solubility:** Not available. **Viscosity:** N/A. **Vapor pressure:** Not listed. n-Octanol / water partition coefficient: Not listed. **Oxidizing properties:** N/A. **Other as commonly listed:** N/A.

SECTION 10: Stability & Reactivity

Reactivity / chemical stability: Stable under normal temperature and conditions. **Conditions / Materials to avoid:** Extreme heat, sparks and creation of dust. Avoid contact with oxidizing agents. Avoid hygroscopic conditions and dust formation. **Hazardous decomposition products:** Oxides of carbon, nitrogen and sulfur; hydrogen chloride and hydrogen fluoride. **Hazardous reactions:** Not expected.

SECTION 11: Toxicological Information

See Sections 2 & 4 for information on likely routes of exposure and effects. Swallowing may cause gastrointestinal irritation with nausea and vomiting. **Chronic Effects:** None known. **Sensitization:** Based on studies conducted on a similar product, this product is not expected to cause skin sensitization. **Carcinogenicity:** None of the components in this product are listed as a carcinogen or suspected carcinogen by OSHA, IARC, and NTP. **Reproductive Effects:** This product is not expected to cause reproductive harm. **Mutagenic Effects:** None of the components have been shown to cause mutagenic activity. **Acute Toxicity:** The following toxicity values are based on a similar product: Oral rat LD50: 1750 mg/kg, Inhalation rat LC50: >5.17 mg/L, Skin rat LD50: >5000 mg/kg.

SECTION 12: Ecological Information

Ecotoxicity:
Sulfentrazone: 96 hr LC50 Onchorhynchus mykiss- 120 mg/L, 96 hr LC50 Lepomis macrochirus- 93.8 mg/L, 48 hr EC50 Daphnia magna- 60.4 mg/L, 72 hr EC50 Algae- 32.8 mg/L, 21 day NOEC Fish 5.9 mg/L, 21 day NOEC Crustacea- 0.51 mg/L. **Ammonium Sulfate:** 96 hr LC50 Onchorhynchus mykiss- 53 mg/L. **Sodium Dodecyl Sulfate:** 96 hr LC50 Pimephales promelas- 29 mg/L, 48 hr EC50 Ceriodaphnia dubia- 5.55 mg/L, 42 days NOEC Pimephales promelas- ≥1.357 mg/L, 7 days NOEC Ceriodaphnia dubia- 0.88 mg/L. **Chlorimuron Ethyl:** 96 hr LC50 Cyprinodon variegatus->120 mg/L, 120 hr EC50 Selenastrum capricornutum-0.004 mg/L, 90 day NOEC Onchorhynchus mykiss- 7.6 mg/L, 120 hr NOEC Selenastrum capricornutum-0.00052 mg/L. This product is expected to be very toxic to the aquatic environment with long lasting effects. Releases to the environment should be avoided. **Persistence and Degradability and Bioaccumulative Potential:** Sulfentrazone and Chlorimuron Ethyl: Not readily biodegradable; low potential for bioaccumulation. **Mobility in Soil:** Sulfentrazone is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. **Other Adverse Effects:** This pesticide is toxic to marine/estuarine invertebrates. Do not apply directly to water, 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 in neighboring areas. Do not contaminate water when disposing of equipment wash waters or rinsate.

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. **Container disposal: Refer product label for container disposal or reuse.** See product label for language regarding non-refillable container and/or returnable/refillable containers. Emptied container retains product vapor and residue. Observe all labeled safeguards until container is reconditioned or destroyed. Do not allow rinse waters to contaminate soil or waterways.

SECTION 14: Transport Information

U.S. DOT: Not subject to DOT regulation for ground transportation. **IMDG*, IATA*:** UN3077, Environmentally hazardous substance, solid, n.o.s. (Chlorimuron Ethyl), 9, III, Marine Pollutant. *Inner packages with less than 5 kg of solid are exempt per IMDG Code 2.10.2.7 and ICAO Special Provision A197. **Transport in Bulk (According to Annex II of MARPOL 73/78 and the IBC Code):** Not applicable. No known special precautions.

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.:** 74530-95. **Hazards to Humans and Domestic Animals:** Harmful if swallowed. Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Avoid contact with eyes or clothing. **Physical and Chemical Hazard Statement:** Do not mix or allow coming in contact with oxidizing agents. Hazardous chemical reaction may occur. **ENVIRONMENTAL HAZARDS:** This pesticide is toxic to marine/estuarine invertebrates. Do not apply directly to water, 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 in neighboring areas. Do not contaminate water when disposing of equipment washwaters or rinsate. Refer Section 10. Report all spills. **Read EPA registered product label, read advisories: EPA Registration No.:** 74530-95. **SARA 311/312 Hazard Categories:** Refer Section 2. **SARA 313:** This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements: Chlorimuron Ethyl, CAS # 90982-32-4, 3.9%. **Section 302 Extremely Hazardous Substances (TPQ):** None. **CERCLA:** None listed. **California Proposition 65:** N/A. **State Right-to-Know Regulations:** N/A.

SECTION 16: Other Information

NFPA Ratings:	Health = 2	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; DST - Dienststellen; 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; 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: October 6th, 2023. **Revision no. 1**
Reason for Revision: SDS review and truncate. Confirm/Update Section 5, 14. Review, truncate, and/or update Sections 15 (PRN 2012-1), 16 (listed as same NFPA listing [Health] as product reg. no. 74530-60). Address change.
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