# Safety Data Sheet

According to OSHA Hazard Communication Standard, 29 CFR 1910.1200



## SECTION 1: Identification

### Product Identifier

**Product Name:** Empero

**Product code:** EPA Reg. No.: 91234-31

### Recommended Use of the Product and Restriction on Use

**Relevant Identified Uses:** Water dispersible granular herbicide

**Uses Advised Against:** Any use other than specified above

**Reasons Why Uses Advised Against:** Not determined or not applicable.

### Manufacturer or Supplier Details

**Manufacturer:**

**United States**

Atticus, LLC
940 NW Cary Parkway
Suite 200
Cary, North Carolina 27513
(984) 465-4754

### Emergency Telephone Number:

**For Chemical Emergency**

CHEMTREC
1-800-424-9300 (24 hours)
+1-703-527-3887 (24 hours)
Collect calls accepted

**For Emergency Medical Treatment Information**

SAFETYCALL
1-844-685-9173 (24 hours)

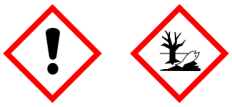
## SECTION 2: Hazard(s) Identification

### GHS Classification:

Acute toxicity (oral), category 4
Eye irritation, category 2B
Acute aquatic hazard, category 1
Chronic aquatic hazard, category 1

### Label elements

**Hazard Pictograms:**



**Signal Word:** Warning

### Hazard statements:

H320 Causes eye irritation
H302 Harmful if swallowed
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

**Precautionary Statements:**

P101 If medical advice is needed, have product container or label at hand
P102 Keep out of reach of children
P103 Read label before use
P264 Wash hands and exposed skin thoroughly after handling
P270 Do not eat, drink or smoke when using this product
P273 Avoid release to the environment
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 If eye irritation persists: Get medical advice or attention.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 Rinse mouth
P391 Collect spillage
P501 Dispose of contents and container in accordance with federal, state and local regulations.

**Hazards Not Otherwise Classified:**

Do not mix with or allow to come into contact with oxidizing agents. A hazardous chemical reaction may occur.

## SECTION 3: Composition/Information on Ingredients

| Identification | Name | Weight % |
|---|---|---|
| CAS Number: 100784-20-1 | Halosulfuron-methyl | 75 |

**Additional Information:**

NOTE: Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.

## SECTION 4: First Aid Measures

**Description of First Aid Measures**

**General Notes:**

Show this Safety Data Sheet to the doctor in attendance.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact SafetyCall at 1-844-685-9173 for emergency medical treatment information. For Chemical Emergency: spill, leak, fire, exposure or accident, call CHEMTREC day or night within USA and Canada at 1-800-424-9300 or +1-703-527-3887 (collect calls accepted).

**After Inhalation:**

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

**After Skin Contact:**

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

**After Eye Contact:**

Rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

**After Swallowing:**

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

**Most Important Symptoms and Effects, Both Acute and Delayed**

**Acute Symptoms and Effects:**

Eye contact may result in irritation, redness, pain, inflammation, itching, burning and tearing.

**Delayed Symptoms and Effects:**

Effects are dependent on exposure (dose, concentration, contact time).

Symptoms of exposure may be delayed.

**Immediate Medical Attention and Special Treatment**

**Specific Treatment:**

Not determined or not applicable.

**Notes for the Doctor:**

Treat symptomatically.

## SECTION 5: Firefighting Measures

**Extinguishing Media**

**Suitable Extinguishing Media:**

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

**Unsuitable Extinguishing Media:**

Do not use water jet.

**Specific Hazards During Fire-Fighting:**

Thermal decomposition may produce irritating/toxic fumes/gases.

Combustion products may include oxides of carbon, nitrogen, and sulfur as well as hydrogen chloride gas.

**Special Protective Equipment for Firefighters:**

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full-face piece operated in positive pressure mode.

**Special precautions:**

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts. Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers. Avoid unnecessary run-off of extinguishing media which may cause pollution.

## SECTION 6: Accidental Release Measures

**Personal Precautions, Protective Equipment, and Emergency Procedures:**

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

**Environmental Precautions:**

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

**Methods and Material for Containment and Cleaning Up:**

Harmful if swallowed. Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Avoid breathing dust, mist, fumes, vapors or spray. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

**Reference to Other Sections:**

For personal protective equipment see Section 8. For disposal see Section 13.

## SECTION 7: Handling and Storage

**Precautions for Safe Handling:**

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

**Conditions for Safe Storage, Including Any Incompatibilities:**

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

## SECTION 8: Exposure Controls/Personal Protection

Only those substances with limit values have been included below.

**Occupational Exposure Limit Values:**

No occupational exposure limits noted for the ingredient(s).

**Biological Limit Values:**

No biological exposure limits noted for the ingredient(s).

**Information on Monitoring Procedures:**

Not determined or not applicable.

**Appropriate Engineering Controls:**

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

**Personal Protection Equipment**

**Eye and Face Protection:**

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

**Skin and Body Protection:**

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

**Respiratory Protection:**

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

**General Hygienic Measures:**

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

## SECTION 9: Physical and Chemical Properties

### Information on Basic Physical and Chemical Properties

| | |
|---|---|
| **Appearance** | Off-white granule |
| **Odor** | Mild bitter |
| **Odor threshold** | Not determined or not available. |
| **pH** | 6 - 7 |
| **Melting point/freezing point** | Not determined or not available. |
| **Initial boiling point/range** | Not determined or not available. |
| **Flash point (closed cup)** | Not determined or not available. |
| **Evaporation rate** | Not determined or not available. |
| **Flammability (solid, gas)** | Not determined or not available. |
| **Upper flammability/explosive limit** | Not determined or not available. |
| **Lower flammability/explosive limit** | Not determined or not available. |
| **Vapor pressure** | Not determined or not available. |
| **Vapor density** | Not determined or not available. |
| **Density** | 0.623 g/cm3 (38.9 pounds/cubic foot) at indoor ambient temperature |
| **Relative density** | Not determined or not available. |
| **Solubilities** | Not determined or not available. |
| **Partition coefficient (n-octanol/water)** | Not determined or not available. |
| **Auto/Self-ignition temperature** | Not determined or not available. |
| **Decomposition temperature** | Not determined or not available. |
| **Dynamic viscosity** | Not determined or not available. |
| **Kinematic viscosity** | Not determined or not available. |
| **Explosive properties** | Not determined or not available. |
| **Oxidizing properties** | Not determined or not available. |

## SECTION 10: Stability and Reactivity

**Reactivity:**
Not reactive under recommended handling and storage conditions.
**Chemical Stability:**
Stable under recommended handling and storage conditions.
**Possibility of Hazardous Reactions:**
Hazardous reactions are not anticipated under recommended conditions of handling and storage.
**Conditions to Avoid:**
Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.
Moisture
**Incompatible Materials:**
Oxidizing agents; acids
**Hazardous Decomposition Products:**

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological Information

### Acute Toxicity

**Assessment:**

Harmful if swallowed.

**Product Data:**

| Route | Result |
|---|---|
| Oral | LD50 Rat: 1,287 mg/kg |
| Dermal | LD50 Rat: > 5,000 mg/kg |
| Inhalation | LC50 Rat: > 5.7 mg/L (4 hr) |

**Substance Data:**

| Name | Route | Result |
|---|---|---|
| Halosulfuron-methyl | oral | LD50 Rat: 8,866 mg/kg |
| | dermal | LD50 Rat: > 2,000 mg/kg |
| | inhalation | LC50 Rat: > 6 mg/L (4 hr [dust]) |

### Skin Corrosion/Irritation

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

Slightly irritating (rabbit)

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | Non-irritant |

### Serious Eye Damage/Irritation

**Assessment:**

Causes eye irritation.

**Product Data:**

Moderately irritating (rabbit)

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | Mild transient (<24 hr) irritation involving the conjunctiva and iris |

### Respiratory or Skin Sensitization

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | Not a skin sensitizer (guinea pig) |

### Carcinogenicity

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:** No data available.

**Substance Data:**

| Name | Species | Result |
|---|---|---|
| Halosulfuron-methyl | | EPA: Not likely to be carcinogenic to humans |

**International Agency for Research on Cancer (IARC):**

| Name | Classification |
|---|---|
| Halosulfuron-methyl | Not Applicable |

**National Toxicology Program (NTP):**

| Name | Classification |
|---|---|
| Halosulfuron-methyl | Not Applicable |

**OSHA Carcinogens:** Not applicable

**Germ Cell Mutagenicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | No evidence of mutagenic effects during in vivo and in vitro assays. |

**Reproductive Toxicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | No evidence of reproductive or developmental toxicity in animal studies. |

**Specific Target Organ Toxicity (Single Exposure)**

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

**Specific Target Organ Toxicity (Repeated Exposure)**

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

**Aspiration toxicity**

**Assessment:** Based on available data, the classification criteria are not met.

**Product Data:**

No data available.

**Substance Data:** No data available.

**Information on Likely Routes of Exposure:**

No data available.

**Symptoms Related to the Physical, Chemical, and Toxicological Characteristics:**

No data available.

**Other Information:**

Information in this section is provided from a similar formulation.

## SECTION 12: Ecological Information

### Acute (Short-Term) Toxicity

**Assessment:**

Very toxic to aquatic life.

Toxic to non-target vascular plants.

**Product Data:** No data available.

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | Fish LC50 Oncorhynchus mykiss: > 118 mg/L (96 hr) |
| | Aquatic Invertebrates EC50 Daphnia magna: > 107 mg/L (48 hr [mobility]) |
| | Aquatic Plants EC50 Selenastrum capricornutum: 0.0053 mg/L (72 hr [population]) |

### Chronic (Long-Term) Toxicity

**Assessment:**

Very toxic to aquatic life with long lasting effects.

**Product Data:** No data available.

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | Aquatic Invertebrates NOEC Daphnia magna: 0.98 mg/L (21 d [growth]) |

### Persistence and Degradability

**Product Data:** No data available.

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | The substance is not readily biodegradable. 3% degradation in water, measured by CO2 evolution, after 29 days. |

### Bioaccumulative Potential

**Product Data:** No data available.

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | The substance is not expected to bioaccumulate (log kow: 1.67 - pH 5, -0.0186 - pH 7 and -0.542 - pH 9 at 23°C). |

### Mobility in Soil

**Product Data:** No data available.

**Substance Data:**

| Name | Result |
|---|---|
| Halosulfuron-methyl | The substance is highly mobile, therefore, adsorption to soil and sediment is not expected (log Koc: 0.767, QSAR substance data). |

### Results of PBT and vPvB assessment

**Product Data:**

**PBT assessment:** This product does not contain any substances that are assessed to be a PBT.

**vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

**Substance Data:**

**PBT assessment:** This product does not contain any substances that are assessed to be a PBT.

**vPvB assessment:** This product does not contain any substances that are assessed to be a vPvB.

### Other Adverse Effects:

Halosulfuron-methyl has properties and characteristics associated with chemicals detected in groundwater.

The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination. Halosulfuron-methyl is known to leach through soil into groundwater under certain conditions as a result of label use.

## SECTION 13: Disposal Considerations

**Disposal Methods:**

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Do not contaminate water, food, or feed by storage or disposal. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose of excess or waste pesticide by use according to label directions, or contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**Contaminated packages:**

CONTAINER DISPOSAL: Nonrefillable and refillable containers. Refer to the product label for specific container disposal instructions.

## SECTION 14: Transport Information

**United States Transportation of Dangerous Goods (49 CFR DOT)**

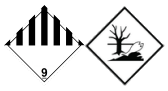
| | |
|---|---|
| **UN Number** | Not regulated |
| **UN Proper Shipping Name** | Not regulated |
| **UN Transport Hazard Class(es)** | None |
| **Packing Group** | None |
| **Environmental Hazards** | None |
| **Special Precautions for User** | None |
| **Additional Information** | This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. |

**International Maritime Dangerous Goods (IMDG)**

| | |
|---|---|
| **UN Number** | UN3077 |
| **UN Proper Shipping Name** | Environmentally hazardous substance, solid, N.O.S. (halosulfuron-methyl) |
| **UN Transport Hazard Class(es)** | 9  |
| **Packing Group** | III |
| **Environmental Hazards** | Marine Pollutant |
| **Special Precautions for User** | None |

| | |
|---|---|
| **Additional Information** | This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. |

**International Air Transport Association Dangerous Goods Regulations (IATA-DGR)**

| | |
|---|---|
| **UN Number** | UN3077 |
| **UN Proper Shipping Name** | Environmentally hazardous substance, solid, N.O.S. (halosulfuron-methyl) |
| **UN Transport Hazard Class(es)** | 9  |
| **Packing Group** | III |
| **Environmental Hazards** | Marine Pollutant |
| **Special Precautions for User** | None |
| **Additional Information** | This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material. |

## SECTION 15: Regulatory Information

**United States Regulations**

**Inventory Listing (TSCA):** All ingredients are listed-active or exempt.

**Significant New Use Rule (TSCA Section 5):** None of the ingredients are listed.

**Export Notification under TSCA Section 12(b):** None of the ingredients are listed.

**SARA Section 302 Extremely Hazardous Substances:** None of the ingredients are listed.

**SARA Section 313 Toxic Chemicals:** None of the ingredients are listed.

**CERCLA:** None of the ingredients are listed.

**RCRA:** None of the ingredients are listed.

**Section 112(r) of the Clean Air Act (CAA):** None of the ingredients are listed.

**Massachusetts Right to Know:** None of the ingredients are listed.

**New Jersey Right to Know:** None of the ingredients are listed.

**New York Right to Know:** None of the ingredients are listed.

**Pennsylvania Right to Know:** None of the ingredients are listed.

**California Proposition 65:** None of the ingredients are listed.

**Additional information:**

FIFRA: All pesticides are governed under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). 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. The regulatory information presented outside of this FIFRA section is pertinent only when this product is handled outside of normal use and application as a pesticide. This product is excluded from listing requirements under EPA/TSCA. The following is the hazard information as required on the pesticide label:

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling. Refer to the product label for additional precautionary statements.

ENVIRONMENTAL HAZARDS

This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

This chemical has properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

Halosulfuron-methyl is known to leach through soil into groundwater under certain conditions as a result of label use. This chemical may leach into groundwater if used in an area where soils are permeable, particularly where the water table is shallow.

PHYSICAL OR CHEMICAL HAZARDS

Do not mix or allow to come into contact with oxidizing agents. A hazardous chemical reaction may occur.

## SECTION 16: Other Information

**Abbreviations and Acronyms:** None

**Disclaimer:**

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA APPROVED PRODUCT LABELING (attached to and accompanying the product container). This SDS 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. To the extent consistent with applicable law, neither Atticus, LLC nor Seller be liable for any incidental, consequential or special damages resulting from the use or handling of this product. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF ATTICUS, LLC AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF ATTICUS, LLC OR SELLER, THE REPLACEMENT OF THE PRODUCT.

**NFPA:** 1-0-0

**Initial Preparation Date:** 09.15.2025

**End of Safety Data Sheet**