

SAFETY DATA SHEET - TERRAFUEL

Section 1. Identification

Product identifier: TerraFuel

Other means of identification: Powder Fertilizer

Product Type: Powder

Recommended use: Fertilizer for agricultural applications

Supplier's details: Carbon OxyTech Inc.
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Telephone: +1(403) 641-0111
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3655 36 Street NW, Calgary, AB T2L 1Y8, Canada

Emergency telephone number: +1 (403) 641-0111, CA, (24/7)

Section 2. Hazards Identification

GHS INFORMATION

Classification: Eye Irritation, Category 2B. Specific Target Organ Toxicity - Single Exposure, Category 3 (Respiratory Irritation)

LABEL ELEMENTS



Pictogram(s):

Signal Word: Warning

Hazard Statements:

This material can cause irritation to the eyes.
Inhalation may result in irritation to the respiratory system.

Precautionary Statements

Prevention:

Avoid breathing in dust.
Wash hands thoroughly after handling the product.
Use only outdoors or in an area with good ventilation.

Response:

If inhaled: Move the person into fresh air and keep them comfortable for breathing.

If in eyes: Rinse gently with water for several minutes. Remove contact lenses if they are easy to take out, then continue rinsing.



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If feeling unwell: Contact a poison control center or a doctor.
If eye irritation continues: Seek medical attention immediately.

Storage:

Keep in a well-ventilated location.
Ensure containers remain tightly sealed.
Store in locked areas away from unauthorized access.

Disposal:

Dispose of the product and its container in line with regional, national, and local regulations.

Unclassified Hazards: None identified.

Ingredients with Unverified Toxicity: All components (100%) of this mixture are of unknown acute toxicity.

This product is classified as hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200).

It is also considered hazardous according to the Hazardous Products Regulations

Section 3. Composition/Information on Ingredients

Substance/Mixture: Mixture (organic fertilizer based on humic substances).

Chemical Characterization: Organic powder containing humic and fulvic acids with inert components.

Component	Concentration (% by weight)	CAS Number
Humic Acid	~64% (ISO)	1415-93-6
Fulvic Acid	~3.0%	479-66-3
Organic Carbon	~48.4%	Not applicable
Inert Ingredients	~32%	Not applicable
Moisture	~8%	Not applicable

Section 4. First Aid Measures

Inhalation: Move the affected person to fresh air and keep them at rest in a position comfortable for breathing. Seek medical attention if symptoms occur.

Potential effects (acute and delayed): May cause irritation of the respiratory tract. Symptoms may include coughing, sneezing, nasal discharge, sore throat, headache, hoarseness, or discomfort in the nose and throat.

Eye Contact: Rinse eyes carefully with water for at least 15 minutes. Remove contact lenses if present and easy to do, then continue rinsing. Obtain medical attention if irritation persists.



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Potential effects (acute and delayed): May cause eye irritation. Symptoms may include redness, swelling, pain, tearing, blurred vision, or hazy appearance.

Skin Contact: Wash affected skin thoroughly with plenty of water. Seek medical attention if irritation develops or persists. **Potential effects (acute and delayed):** May cause mild to moderate skin irritation, including redness, swelling, and itching.

Ingestion: If swallowed, seek medical attention immediately. If vomiting occurs naturally, keep victim leaning forward to reduce aspiration risk. Do not induce vomiting unless directed by medical personnel. Do not administer anything by mouth to an unconscious person.

Potential effects (acute and delayed): May cause gastrointestinal discomfort. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

General Advice: If exposure occurs or if you feel unwell, seek immediate medical attention. Provide this Safety Data Sheet to medical personnel where possible.

Note to Physician: Symptoms may not appear immediately.

Section 5. Fire-Fighting Measures

FLAMMABILITY AND EXPLOSION INFORMATION

This material is not classified as flammable or combustible according to OSHA/WHMIS standards.

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

EXTINGUISHING MEDIA:

Suitable Media: Use fire-extinguishing agents appropriate for surrounding materials.

Unsuitable Media: Specific information not available; avoid water if ineffective against surrounding fire.

Hazardous Combustion Products: Thermal decomposition may release carbon oxides and nitrogen oxides.

Protective Equipment for Firefighters: Firefighters should wear positive-pressure self-contained breathing apparatus (SCBA). Standard structural firefighting protective clothing offers only limited protection in such conditions.

Section 6. Accidental Release Measures

Emergency Procedures: Restrict access to the spill area. Remain upwind and avoid low-lying zones. Ensure proper ventilation before entering enclosed spaces.

Personal Precautions: Avoid direct contact with the material. Do not walk through spilled product. Wear appropriate personal protective equipment as outlined in Section 8.

Environmental Precautions: Prevent material from entering drains, sewers, ditches, or waterways.

Containment Methods: Do not allow release into water systems or sewers.

Clean-Up Methods: Collect spilled material by sweeping or shoveling and transfer into appropriate containers for disposal.

Additional Information: Refer to Section 13 for disposal guidance.

Section 7. Handling and Storage

Handling: Do not ingest. Avoid inhaling dust. Wash hands thoroughly after handling. Use only outdoors or in well-ventilated areas. For protective measures, consult Section 8.

Storage: Store in a dry, well-ventilated place with containers tightly sealed. Keep containers locked when not in use. Store away from incompatible substances (see Section 10). Ensure the product is kept out of reach of children.

Section 8. Exposure Controls / Personal Protection

Exposure Guidelines

Humalite [CAS No. 129521-66-0]

ACGIH: Threshold Limit Values (TLV) – 10 mg/m³ (TWA, inhalable fraction); 3 mg/m³ (TWA, respirable fraction). Applies to particles that are insoluble or poorly soluble and not otherwise specified.

OSHA: Permissible Exposure Limits (PEL) – 15 mg/m³ (TWA, total dust); 5 mg/m³ (TWA, respirable fraction). Applies to particulates not otherwise regulated (PNOR).

Humic Acids [CAS No. 1415-93-6]

ACGIH: No TLV established.

OSHA: No PEL established.

PEL (Permissible Exposure Limit)

TLV (Threshold Limit Value)

TWA: Time-Weighted Average

Engineering Controls: Provide sufficient ventilation to maintain airborne concentrations of dust, fumes, vapors, or gases below applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Eye/Face Protection: Use safety glasses. If dust is generated, wear indirect-vented, dust-tight goggles. Ensure that an eyewash station is accessible near the work area. Protective eyewear should comply with CSA Standard CAN/CSA-Z94.3 and OSHA 29 CFR 1910.133 requirements.

Hand Protection: Wear suitable protective gloves. Consult glove manufacturer specifications for appropriate selection.

Skin and Body Protection: Wear protective clothing to prevent skin contact.

Respiratory Protection: If ventilation or engineering controls do not maintain exposure below recommended limits, wear a NIOSH/MSHA-approved air-purifying respirator equipped with a particulate filter, or use self-contained breathing apparatus (SCBA) that meets CSA Standard CAN/CSA-Z94.4. Supplied-air respirators are required in oxygen-deficient environments or when airborne concentrations exceed the capacity of air-purifying respirators.

General Hygiene Considerations: Handle material in accordance with established industrial hygiene and safety practices. Wash thoroughly after handling. A qualified industrial hygienist or PPE manufacturer should be consulted to ensure adequate protection and proper equipment selection.

Section 9. Physical and Chemical Properties

Appearance: Solid form, powder.

Colour: Black.

Odour: Slight musty smell.

Odour Threshold: Information not available.

Physical State: Solid.

pH: Data not available.

Melting Point / Freezing Point: Not determined.

Initial Boiling Point: Not determined.

Boiling Range: Not determined.

Flash Point: Not determined.

Evaporation Rate: Not determined.

Flammability (solid, gas): Refer to Section 5.

Lower Flammability Limit: Not determined.

Upper Flammability Limit: Not determined.

Vapour Pressure: Not determined.

Vapour Density: Not determined.

Relative Density: Not determined.

Solubilities: Not determined.

Partition Coefficient (n-Octanol/Water): Not determined.

Auto-ignition Temperature: Not determined.

Decomposition Temperature: Not determined.

Viscosity: Not determined.

Percent Volatile, wt.%: Not determined.

VOC Content, wt.%: Not determined.

Density: Not determined.

Coefficient of Water/Oil Distribution: Not determined.

Section 10. Stability and Reactivity

Reactivity: May react when in contact with incompatible substances or upon exposure to heat.

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: No data available.

Conditions to Avoid: Avoid contact with incompatible substances and exposure to heat.

Incompatible Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Information not available.

Section 11. Toxicological Information

EFFECTS OF ACUTE EXPOSURE

Product Toxicity

Oral: Not available.

Dermal: Not available.

Inhalation: Not available.

Component Toxicity

Component	CAS No.	LD ₅₀ Oral	LD ₅₀ Dermal	LC ₅₀ Inhalation
Humalite	129521-66-0	Not available	Not available	Not available
Humic acids	1415-93-6	Not available	Not available	Not available

Likely Routes of Exposure: Eye contact, skin contact, inhalation, ingestion, skin absorption.

Target Organs: Skin, eyes, gastrointestinal tract, respiratory system.

Symptoms (immediate and delayed):

Inhalation: May cause respiratory tract irritation. Possible effects include coughing, sneezing, nasal discharge, sore throat, hoarseness, headache, and throat discomfort.

Eye Contact: May cause eye irritation. Symptoms may include redness, swelling, tearing, pain, and blurred or hazy vision.

Skin Contact: May cause irritation. Symptoms may include redness, itching, swelling, and localized discomfort.

Ingestion: May cause gastrointestinal irritation. Possible effects include abdominal pain, nausea, vomiting, diarrhea, and stomach upset.

Skin Sensitization: Not available.

Respiratory Sensitization: Not available.

Medical Conditions Aggravated by Exposure: Not available.

EFFECTS OF CHRONIC EXPOSURE (SHORT- AND LONG-TERM EXPOSURE)

Target Organs: Skin, eyes, gastrointestinal tract, respiratory system, lungs, blood, cardiovascular system, liver.

Chronic Effects: Prolonged or repeated contact may cause skin dryness and irritation. Long-term inhalation or ingestion of dusts may cause discomfort, but no significant chronic toxicity data are available for humalite or humic acids.

Carcinogenicity: This product is not classified as a carcinogen.

Mutagenicity: Not available.

Reproductive Effects: Not available.

Developmental Effects (Teratogenicity): Not available.

Embryotoxicity: Not available.

Toxicologically Synergistic Materials: Not available.

Section 12. Ecological Information

Ecotoxicity: Not available.

Persistence / Degradability: Not available.

Bioaccumulation / Accumulation: Not available.

Mobility in Environment: Not available.

Other Adverse Effects: Not available.

Section 13. Disposal Considerations

Disposal Instructions: Waste disposal must comply with all applicable local, regional, and national regulations. Be aware that local requirements may be stricter than those at the regional or national level.

Section 14. Transport Information

U.S. Department of Transportation (DOT)

Proper Shipping Name: Not regulated.

Class: Not applicable.

UN Number: Not applicable.

Packing Group: Not applicable.

Label Code: Not applicable.

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: Not regulated.

Class: Not applicable.

UN Number: Not applicable.

Packing Group: Not applicable.

Label Code: Not applicable.

Section 15. Regulatory Information

Chemical Inventories

Canada (DSL): The components of this product are in compliance with the chemical notification requirements of the Domestic Substances List (DSL) under the Canadian Environmental Protection Act (CEPA), 1999.

Section 16. Other Information

Disclaimer: The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.

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Version: 1.0

GHS SDS Prepared by: Carbon OxyTech Inc.