



**OptiFuel™**

**SECTION 1 - IDENTIFICATION**

PRODUCT IDENTIFIER: OptiFuel				
PRODUCT USE: Catalytic Fuel Additive				
MANUFACTURER: Clean Air Technologies – A Division of Green Earth Naturally, LLC				
ADDRESS: 2314 Ridgefield Street N.E.				
CITY: Roanoke		STATE: Virginia		COUNTRY: USA

**SECTION 2 - COMPOSITION**

HAZARDOUS INGREDIENTS	%	CHEMICAL ABSTRACT (CAS) NUMBER	EU INDEX NUMBER	CLASSIFICATION
2-butoxyethanol	97-100	111-76-2	603-014-00-0	Xn; R20/21/22 X1; R37
Proprietary Catalysts	<1%			
Water	<1%			

**SECTION 3 - HAZARDS INFORMATION AND RATINGS**

WARNING  
 PHYSIO-CHEMICAL HAZARDS: None  
 HEALTH HAZARDS: **HARMFUL IF SWALLOWED, INHALED OR ABSORBED THROUGH SKIN. CAUSES EYE IRRITATION. AFFECTS CENTRAL NERVOUS SYSTEM, BLOOD AND BLOOD-FORMING ORGANS, KIDNEYS, LIVER AND LYMPHOID SYSTEM. COMBUSTIBLE LIQUID AND VAPOR. MAY CAUSE IRRITATION TO SKIN AND RESPIRATORY TRACT.**  
 ENVIRONMENTAL HAZARDS: Not classified as dangerous for the environment.  
 HMIS Hazard Ratings: Health - 2, Flammability - 2, Chemical Reactivity - 0  
 NFPA Hazard Ratings: Health - 2, Flammability - 2, Instability - 0

Key: Severe = 4, Serious = 3, Moderate =2, Slight = 1, Minimal = 0

**SECTION 4 - FIRST AID MEASURES**

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.

Ingestion: Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.

Eye Contact: Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a physician immediately.

General: Always seek medical advice if an allergic reaction occurs.

**SECTION 5 – FIRE FIGHTING MEASURES**

EXTINGUISHING MEDIA:  
Carbon dioxide, dry chemical powder, alcohol foam.

PROTECTIVE EQUIPMENT:  
Firefighters must wear self-contained breathing apparatus and full protective gear. Use water spray to cool containers below flash point.

EXPOSURE HAZARDS:  
Combustion will liberate toxic oxides of carbon.



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**SECTION 6 – ACCIDENTAL RELEASE MEASURES**

**PERSONAL PRECAUTIONS:**

Prevent skin and eye contact by wearing appropriate personal protective equipment. Avoid excessive inhalation by using under well-ventilated conditions, or with appropriate respiratory protection.

**ENVIRONMENTAL PRECAUTIONS:**

Product poses minimal risk to the environment in the packaged quantities. Prevent run-off from entering surface water bodies containing aquatic life. Use absorbent materials.

**REMEDIATION MEASURES:**

Wear appropriate personal protective equipment. Eliminate all sources of ignition. Contain spill with dikes and absorbent materials. Collect in suitable closed container. The spill area may be very slippery. Dispose of waste solutions or used absorbent materials according to all local, regional, and national regulations. Do not discharge spilled material into surface water bodies or ground water.

**SECTION 7 – HANDLING AND STORAGE**

**VENTILATION:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

**DUST/AEROSOL CONTROL:**

Not expected under normal conditions of use.

**EQUIPMENT:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Use chemical safety goggles and/or a full face shield where splashing is possible.

**OTHER:**

Store in tightly closed containers, and away from children. Store in a cool, dry place away from sources of ignition and incompatible materials. Do not freeze.

**SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION**

**EXPOSURE LIMITS:**

Suggested time-weighted average exposure limit = 25 ppm.

**RESPIRATORY PROTECTION:**

No respiratory protection is warranted under expected conditions of use. In higher exposure applications use a supplied air respirator or self-contained breathing apparatus.

**HAND PROTECTION:**

Impervious gloves are recommended. Recommended materials include Butyl rubber or Saranex.

**EYE PROTECTION:**

Chemical safety goggles are recommended. A face shield may be needed in some applications. Do not wear contact lenses. Eye wash station should be readily available.

**SKIN PROTECTION:**

Coveralls or other suitable protective garment. Wear suitable footwear for application and working conditions. Have safety shower available.

**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE: Opaque, medium to dark greenish brown liquid	VAPOUR PRESSURE: 0.76 mm Hg.
ODOR: Mild hydrocarbon odor	VAPOUR DENSITY: 4.1
PH: N/ap.	BOILING POINT: 171° C
MELTING POINT: N/av.	FLASH POINT: 62° C
FLAMMABILITY (SOLID, GAS): Vapor flammable	AUTOIGNITION: 238° C
EXPLOSIVE PROPERTIES: None	RELATIVE DENSITY: 0.90 @ 20 C
SOLUBILITY: Soluble in water	SPECIFIC GRAVITY: 1.034



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**SECTION 10 – STABILITY AND REACTIVITY**

**CHEMICAL STABILITY:** Stable under normal conditions of use. Stable to moderate heat, sunlight, and air.

**INCOMPATIBILITY:** Avoid strong oxidizer, strong bases and sources of ignition.

**REACTIVITY:** Hazardous polymerization does not occur. Will attack some forms of plastic, rubber, and coatings.

**HAZARDOUS DECOMPOSITION PRODUCTS:** Oxides of carbon upon thermal decomposition.

**SECTION 11 – TOXICOLOGICAL PROPERTIES**

**ROUTE OF ENTRY:**  
Skin Contact, Skin Absorption, Eye Contact, Inhalation, Ingestion

**EFFECTS OF ACUTE EXPOSURE:**  
Inhalation may cause nose and throat irritation, metallic taste in mouth, and headache. High vapor concentrations may cause respiratory tract irritation, unconsciousness, and kidney and liver damage. Causes mild skin irritation upon contact. Vapor is irritating to the eyes. Liquid can cause irritation, pain, reddening of the eyes, and corneal injury, which heals within a few days. Slightly toxic by ingestion, with effects similar to inhalation. Swallowing or vomiting of the liquid may result in aspiration into the lungs and possible pulmonary edema.

**EFFECTS OF CHRONIC EXPOSURE:** Prolonged or repeated exposures can cause damage to the liver, kidneys, lymphoid system, blood and blood-forming organs.

<b>NARCOSIS:</b> Not reported.	<b>IRRITANCY:</b> As above.	<b>SENSITIZATION:</b> As above
<b>CARCINOGENICITY:</b> Not reported	<b>TERATOGENICITY:</b> Not reported	<b>REPRODUCTIVE TOXICITY:</b> Has shown
<b>MUTAGENICITY:</b> Not reported	<b>SYNERGISTIC PRODUCTS:</b> Not reported	Teratogenic effects in laboratory animals.

**SECTION 12 – ECOLOGICAL INFORMATION**

**MOBILITY:** Completely water-soluble. Expected to be highly mobile in aqueous media.

**DEGRADABILITY:** High degradability expected based on chemical structure.

**ACCUMULATION:** Does not accumulate in biological systems. No potential for biomagnifications.

**ECOTOXICITY:** Expected to have no ecotoxicity to aquatic organisms, soil organisms, plants, and terrestrial animals.

**OTHER EFFECTS:** No potential for ozone depletion or creation. Not a contributor to global warming. Not expected to adversely effect wastewater treatment plants.

**SECTION 13 – DISPOSAL CONSIDERATIONS**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

**SECTION 14 – TRANSPORT INFORMATION**

IATA dangerous goods classification:  
Hazard Class: 6.1, UN/NA: UN2810, Packing Group: III. Combustible liquid exceptions. Containers or drums with fewer than 119 gallons are not regulated.  
AIR – international Civil Aviation Organization (ICAO)  
ICAO Status: Not regulated  
SEA – International Maritime Dangerous Goods (IMDG)  
IMDG Status: Not regulated



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**SECTION 15 – REGULATORY INFORMATION**

Label information:

Xn; R20/21/22 – 37  
S (2-) 24/25  
EEC label number for 2-butoxyethanol: 203-905-0

Other Provisions:

Comply with all national or regional environmental and occupational health and safety requirements.

NOTE: This document is given in good faith and has been prepared in accordance with the MSDS of the OSHA Hazard Communication Standard 29 CFR 1910, 1200. However, no warranty explicit or implicit is given. It is the buyer's responsibility to assure local, state, or federal laws, and the regulatory conditions of each location. (CERCLA) Comprehensive Response Compensation and Liability Act.

The reportable quantity (RQ) is 1 lb. (0.5 Kg.) and must be reported to the National Response Center at 1-800-424-8802.

(SARA) (USA) Super Fund Amendment and Reauthorization Act.

Product subject to the reporting stipulations of Title III or Section 313 of 1986. Sections 311 and 312 hazard classification(s): fire hazard, delayed health hazard (Chronic), immediate health hazard (acute).

(TSCA) US Toxic Substances Control Act. Product listed on the TSCA Inventory.

**SECTION 16 – OTHER INFORMATION**

Abbreviations used on the MSDS: N/av. = not available, N/ap. = Not applicable, ppm = parts per million, TLV = Threshold Limit Value

SOURCES OF DATA:

Canadian Center for Occupational Health and Safety CCINFO database, United Kingdom CHIP 2 Regulations and Approved Supply List meeting current European Union Directives, and Total Power, Inc.

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information. Users should make independent determination of suitability and completeness of information from all sources to assure proper use and disposal of these materials, the safety and health of employees and customers, and the protection of the environment.