

BE5000 - Eko Fuel

Revision: 2024-01-21

Version: 01

SECTION 1: Identification of the substance/mixture and supplier

1.1 Product identifier

Product name: BE5000 - Eko Fuel

1.2 Recommended use and restrictions on use

Identified uses:

Biofuel for fireplaces

For professional use only

Restrictions of use:

Uses other than those identified are not recommended

1.3 Details of the supplier

ZOMA GEORGIA LLC, Rustavi Highway 68A, Tbilisi, Georgia

Contact details

ZOMA GEORGIA LLC

Legal Address: - Georgia, Tbilisi, Isani district, Bochorma str., N 13, apt.19

Actual Address: - Georgia, Tbilisi, Rustavi Highway 68A,

Tel: +(995)322 501 502

1.4 Emergency telephone number

Seek medical advice (show the label or safety data sheet where possible)

Emergency Health Services: 595 889 441; 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Flammable liquids, Category 2

2.2 Label elements



Signal word: Danger

Hazard statements:

H225 - Highly flammable liquid and vapour.

Prevention statement(s):

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233 - Keep container tightly closed.

P240 - Ground and bond container and receiving equipment.

P241 - Use explosion-proof electrical, ventilating or lighting equipment.

P242 - Use non-sparking tools.

P243 - Take action to prevent static discharges.

P280 - Wear protective gloves, protective clothing and eye or face protection.

Response statement(s):

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P363 - Wash contaminated clothing before reuse.

P370 + P378 - In case of fire: Use chemical powder to extinguish.

Storage statement(s):

P403 + P235 - Store in a well-ventilated place. Keep cool.

Disposal statement(s):

P501 - Dispose of unused content as chemical waste.

2.3 Other hazards

No other hazards known.

SECTION 3: Composition/information on ingredients

3.1 Substances / Mixtures

Ingredient(s)	CAS number	EC number	Weight percent
ethanol	64-17-5	200-578-6	>= 90

Non-hazardous ingredients are the remainder and add up to 100%.

Workplace exposure limit(s), if available, are listed in subsection 8.1.

SECTION 4: First aid measures

4.1 Description of first aid measures

Inhalation:	Get medical attention or advice if you feel unwell.
Skin contact:	Take off immediately all contaminated clothing and wash it before reuse.
Eye contact:	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Ingestion:	Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Get medical attention or advice if you feel unwell.
Self-protection of first aider:	Consider personal protective equipment as indicated in subsection 8.2.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:	No known effects or symptoms in normal use.
Skin contact:	No known effects or symptoms in normal use.
Eye contact:	No known effects or symptoms in normal use.
Ingestion:	No known effects or symptoms in normal use.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

No special hazards known.

5.3 Advice for firefighters

As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

5.4 Hazchem code

- 2YE
- 2 - Alcohol resistant foam is the preferred firefighting medium but, if it is not available, fine water spray can be used.
- Y - Full fire kit and breathing apparatus. Contain.
- E - People should be warned to stay indoors with all doors and windows closed, but evacuation may need to be considered.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Turn off all sources of ignition. Ventilate the area. Wear suitable protective clothing, gloves and eye/face protection.

6.2 Environmental precautions

Do not allow to enter drainage system, surface or ground water. Dilute with plenty of water.

6.3 Methods and material for containment and cleaning up

Dyke to collect large liquid spills. Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust). Do not place spilled materials back into the original container. Collect in closed and suitable containers for disposal.

6.4 Reference to other sections

For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Measures to prevent fire and explosions:**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use explosion-proof electrical, ventilating or lighting equipment. Use non-sparking tools.

Measures required to protect the environment:

For environmental exposure controls see subsection 8.2.

Advices on general occupational hygiene:

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Handle and open container with care. Do not mix with other products. Wash hands before breaks and at the end of workday. Take off immediately all contaminated clothing. Avoid contact with skin. Use only with adequate ventilation. See chapter 8.2, Exposure controls / Personal protection.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local and national regulations. Store in a well-ventilated place. Store in a closed container. Keep only in original packaging. Keep from freezing. Keep cool. Keep away from heat and direct sunlight.

For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

7.3 Specific end use(s)

No specific advice for end use available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Workplace exposure limits**

Air limit values, if available:

Ingredient(s)	Long term value(s) (TWA)	Short term value(s) (STEL)	Peak value(s)
ethanol	1000 ppm 1880 mg/m ³		

Biological limit values, if available:

8.2 Exposure controls

The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet.

If available, please refer to the product information sheet for application and handling instructions.

Normal use conditions are assumed for this section.

Recommended safety measures for handling the undiluted product:

Appropriate engineering controls: No special requirements under normal use conditions.

Appropriate organisational controls: No special requirements under normal use conditions.

Personal protective equipment**Eye / face protection:**

Safety glasses or goggles (EN 166).

Hand protection:

Chemical-resistant protective gloves (EN 374). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such as risk of splashes, cuts, contact time and temperature.

Suggested gloves for prolonged contact: Material: butyl rubber Penetration time: ≥ 480 min Material thickness: ≥ 0.7 mm

Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time: ≥ 30 min Material thickness: ≥ 0.4 mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

Body protection:

Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605).

Respiratory protection:

No special requirements under normal use conditions.

Environmental exposure controls:

Should not reach sewage water or drainage ditch undiluted or unneutralised.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties****Method / remark**

Physical State: Liquid

Appearance: Liquid

Colour: Clear, Colourless
Odour: Product specific
Odour threshold: Not applicable
pH ≈ 7 (neat) ISO 4316
Dilution pH: ≈ 7 (10%)
Melting point/freezing point (°C): Not determined Not relevant to classification of this product
Initial boiling point and boiling range (°C): Not determined
Flammability (liquid): Flammable.
Flash point (°C): ≈ 21 °C open cup
Sustained combustion: Not applicable.
(UN Manual of Tests and Criteria, section 32, L.2)
Evaporation rate: Not determined Not relevant to classification of this product
Flammability (solid, gas): Not applicable to liquids
Upper/lower flammability limit (%): Not determined
Vapour pressure: Not determined
Vapour density: Not determined Not relevant to classification of this product
Relative density: ≈ 0.81 (20 °C) OECD 109 (EU A.3)
Solubility in / Miscibility with Water: Fully miscible
Partition coefficient: n-octanol/water No information available.
 Substance data, partition coefficient n-octanol/water (log Kow): see subsection 12.3
Autoignition temperature: Not determined
Decomposition temperature: Not applicable.
Viscosity: ≈ 100 mPa.s (20 °C)
Explosive properties: Not explosive. Vapours may form explosive mixtures with air.
Oxidising properties: Not oxidising

9.2 Other information

Surface tension (N/m): Not determined
Corrosion to metals: Not corrosive

SECTION 10: Stability and reactivity

10.1 Reactivity

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal storage and use conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known under normal storage and use conditions.

10.4 Conditions to avoid

Take action to prevent static discharges.

10.5 Incompatible materials

None known under normal use conditions.

10.6 Hazardous decomposition products

None known under normal storage and use conditions.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture data:

Relevant calculated ATE(s):

ATE - Oral (mg/kg): >2000

Substance data, where relevant and available, are listed below:

Acute toxicity

Acute oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
ethanol	LD ₅₀	5000	Rat	OECD 401 (EU B.1)	

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)
ethanol	LD ₅₀	> 10000	Rabbit	OECD 402 (EU B.3)	

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
ethanol	LC ₅₀	> 1800	Rat	Non guideline test	4

Irritation and corrosivity

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
ethanol	No data available			

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
ethanol	No data available			

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
ethanol	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
ethanol	No data available			

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
ethanol	No data available			

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
ethanol	No data available		No data available	

Carcinogenicity

Ingredient(s)	Effect
ethanol	No data available

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
ethanol			No data available				

Repeated dose toxicity

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
ethanol		No data available				

Sub-chronic dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
ethanol		No data available				

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
ethanol		No data available				

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
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ethanol			No data available				
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STOT-single exposure

Ingredient(s)	Affected organ(s)
ethanol	No data available

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
ethanol	No data available

Aspiration hazard

Substances with an aspiration hazard (H304), if any, are listed in section 3.

Potential adverse health effects and symptoms

Effects and symptoms related to the product, if any, are listed in subsection 4.2.

SECTION 12: Ecological information**12.1 Toxicity**

No data is available on the mixture.

Substance data, where relevant and available, are listed below:

Aquatic short-term toxicity

Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
ethanol	LC ₅₀	8150	<i>Alburnus alburnus</i>	Method not given	96

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
ethanol	EC ₅₀	9268 - 14221	<i>Daphnia magna Straus</i>	Method not given	48

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
ethanol	EC ₀	5000	<i>Scenedesmus quadricauda</i>	Method not given	168

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
ethanol		No data available			-

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
ethanol	EC ₀	6500	<i>Pseudomonas putida</i>	Method not given	16 hour(s)

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
ethanol		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
ethanol		No data available				

Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw sediment)	Species	Method	Exposure time (days)	Effects observed
ethanol		No data available			-	

Terrestrial toxicity

Terrestrial toxicity - soil invertebrates, including earthworms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
ethanol		No data available			-	

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
ethanol		No data available			-	

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed
ethanol		No data available			-	

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
ethanol		No data available			-	

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
ethanol		No data available			-	

12.2 Persistence and degradability

Abiotic degradation

Abiotic degradation - photodegradation in air, if available:

Abiotic degradation - hydrolysis, if available:

Abiotic degradation - other processes, if available:

Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT ₅₀	Method	Evaluation
ethanol				OECD 301B	Readily biodegradable

Ready biodegradability - anaerobic and marine conditions, if available:

Degradation in relevant environmental compartments, if available:

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Ingredient(s)	Value	Method	Evaluation	Remark
ethanol	-0.35	Weight of evidence		

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
ethanol	No data available				

12.4 Mobility in soil

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log Koc	Desorption coefficient Log Koc(des)	Method	Soil/sediment type	Evaluation
ethanol	No data available				

12.5 Other adverse effects

No other adverse effects known.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Waste from residues / unused products:**

The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging material is suitable for energy recovery or recycling in line with local legislation.

Empty packaging**Recommendation:**

Dispose of observing national or local regulations.

Suitable cleaning agents:

Water, if necessary with cleaning agent.

SECTION 14: Transport information**ADG, IMO/IMDG, ICAO/IATA****14.1 UN number:** 1170**14.2 UN proper shipping name:**

Ethanol solution (ethyl alcohol solution)

14.3 Transport hazard class(es):

Transport hazard class (and subsidiary risks): 3

14.4 Packing group: II**14.5 Environmental hazards:**

Environmentally hazardous: No

Marine pollutant: No

14.6 Special precautions for user: None known.**14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code:** The product is not transported in bulk tankers.**Other relevant information:****Hazchem code:** +2YE**ADR**

The product has been classified, labelled and packaged in accordance with the requirements of ADG7.6 Code and the provisions of the IMDG Code.

Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****SECTION 16: Other information**

The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract

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Additional information:

Respirators: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

Work practices - solvents: Organic solvents may present both a health and flammability hazard. It is recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

Exposure standards - Time Weighted Average (TWA) or Workplace Exposure Standard (WES) (NZ): Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

Personal protective equipment guidelines: The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Health effects from exposure: It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Safety Data Sheet which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations and acronyms:

- DNEL - Derived No Effect Limit
- AUH - Non GHS hazard statement
- PNEC - Predicted No Effect Concentration
- ATE - Acute Toxicity Estimate
- LD50 - Lethal Dose, 50% / Median Lethal dose
- LC50 - Lethal Concentration, 50% / Median Lethal Concentration
- EC50 - effective concentration, 50%
- NOEL - No observed effect level
- NOAEL - No observed adverse effect level
- STOT-RE - Specific target organ toxicity (repeated exposure)
- STOT-SE - Specific target organ toxicity (single exposure)
- EC No. - European Community Number
- OECD - Organization for Economic Cooperation and Development

End of Safety Data Sheet