

SAFETY DATA SHEET

DENATURED ETHANOL (TYPE K1)

Document No	SDS.002
Publish Date	01.05.2024
Revision No	0
Revision Date	-

SECTION 1: Identification Of The Substance/Mixture And Of The Company/Undertaking

1.1. Product Identifier

Material Name Denatured Ethyl Alcohol (Type K1)

1.2. Relevant Identified Uses Of The Substance Or Mixture And Uses Advised Against Industrial applications

1.3. Details Of The Supplier Of The Safety Data Sheet

Company Identification GREEN ENERGY CHEMICALS ENERJİ KİMYASALLARI SAN. TİC. LTD. ŞTİ. Güneri Mah. OSB 8
Sokak No:7/Z01 Kozan / ADANA / TURKEY
Tel: +90 (0322) 504 99 44
Web: www.greenen.com.tr/
E-mail: info@greenen.com.tr

1.4. Emergency Phone # Emergency Health: 112
UZEM The National Counseling Center of Poison: 114

SECTION 2: Hazard Identification

2.1. Classification Of The Substance Or Mixture

According to Globally Harmonized System of Classification and Labelling of Chemicals and Regulation (EC) No 1272/2008 (CLP): Flammable liquid 2
Classification in accordance with OSHA 29 CFR 1910.106 and HCS 29 CFR 1910.1200 Appendix B:
Flammable liquid

2.2. Label Elements

Labeling According to Regulation (EC) No 1272/2008 [CLP/GHS]

Signal Word Danger
Hazard Statements Highly flammable liquid and vapor - Category 2
Causes serious eye irritation - Category 2

Symbol



Precautionary Statements

Prevention P210, P233, P240, P241, P242, P243, P280
Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response P303+P361+P353
P305+P351+P338
P337+P313
P370+P378
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 advice/attention.
In case of fire: Use water fog, alcohol-resistant foam, dry chemical powder, carbon dioxide to extinguish.

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

Disposal P501
Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other Hazards None known.

SECTION 3: Composition/Information On Ingredients

Chemical Name	Ethanol
CAS Number	64-17-5
EC Number	200-578-6
Content (%)	> 96 %
Chemical Name	Tert-Butyl alcohol
CAS Number	75-65-0
EC Number	200-889-7
Content (%)	0,078%
Chemical Name	Denatonium Benzoate
CAS Number	3734-33-6
EC Number	223-095-2
Content (%)	0,001%

SECTION 4: First Aid Measures

4.1. Description Of First Aid Measures

General Advice	Seek medical attention when in doubt or if symptoms are observed. Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.
Inhalation	Remove patient from exposure to fresh air. Get medical attention if symptoms develop or persist.
Skin Contact	After contact with skin, take off immediately all contaminated clothing. Wash skin with water/shower. Get medical attention if skin irritation develops and persists.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Self-Protection Of First Aider	Not applicable

4.2. Most Important Symptoms And Effects, Both Acute And Delayed

Headache. Coughing. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

4.3. Indication Of Any Immediate Medical Attention And Special Treatment Needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Fire - Fighting Measures

5.1. Extinguishing Media

Suitable Extinguishing Media	Water fog, alcohol resistant foam, carbon dioxide, dry chemical powder.
Unsuitable Extinguishing Media	Do not use water jet as an extinguisher, as this will spread the fire.
Fire Fighting Measures	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Use standard firefighting procedures and consider the hazards of other involved materials.

5.2. Special Hazards Arising From The Substance Or Mixture

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed. Combustion products may include: carbon oxides

5.3. Advice For Firefighters

In Case Of Fire	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Flammability Class (OSHA)	Highly flammable liquid and vapor.
Hazardous Combustion Products	Carbon oxides

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment And Emergency Procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2. Environmental Precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods And Material For Containment And Cleaning Up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools.
Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.
Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.
Never return spills to original containers for re-use.

6.4. Reference To Other Sections

See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment
See Section 13 for disposal information

SECTION 7: Handling And Storage

7.1. Precautions For Safe Handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid contact with eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

7.2. Conditions For Safe Storage, Including Any Incompatibilities

Keep away from heat, sparks and open flame. No smoking. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific End Use(s)

None known

SECTION 8: Exposure Controls/Personal Protection

8.1. Control Parameters

Component Exposure Limits

Ethanol			
<u>OSHA PEL:</u>	<u>ACGIH TLV STEL:</u>	<u>NIOSH TAW:</u>	
1900 mg/m ³	1000 ppm	1900 mg/m ³	
1000 ppm		1000 ppm	

EU - Occupational Exposure (98/24/EC) - No biological exposure limits noted for the ingredient(s).

Binding Biological Limit Values And Health Surveillance Measures

ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

Not available

8.2. Exposure Controls

Appropriate Engineering Controls

Explosion-proof general and local exhaust ventilation. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station and safety shower.

Appropriate Personal Protective Equipment

Eye/Face Protection

Wear safety glasses with side shields (or goggles). Chemical goggles are recommended.

Skin Protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Wear suitable

Respiratory Protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Chemical respirator with organic

Environmental Exposure Controls

Legislation for the protection of the environment must be met in full.

General Hygiene Considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants

SECTION 9: Physical And Chemical Properties

9.1. Information On Basic Physical And Chemical Properties

Appearance	Liquid
Color	Clear liquid
Odor	Characteristic
Odor threshold	Not available
pH	Not available
Melting point/freezing point	-114 °C
Boiling point	78 °C
Flash point	13 °C (101,3 kPa)
Evaporation rate	Expected to be rapid
Flammability (solid, gas)	Not applicable
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	3,5 % (Ethanol)
Explosive limit - upper (%)	15 % (Ethanol)
Vapor pressure	5726 Pa (Ethanol) (20 °C)
Vapor density	1,6 (Air = 1)
Relative density	< 0,807 g/ml (20 °C)
Water solubility	Miscible
Solubility (other)	Not available
Partition coefficient (n-octanol/water)	Not applicable
Auto-ignition temperature	425 °C
Decomposition temperature	Not determined
Viscosity	Not available
Explosion properties	Not available
Oxidising properties	Not available

9.2. Other Information

Kinematic viscosity: Not determined

SECTION 10: Stability And Reactivity

10.1. Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport

10.2. Chemical Stability

The product is stable under normal conditions.

10.3. Possibility Of Hazardous Reactions

No dangerous reaction known under conditions of normal use

10.4. Conditions To Avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash

10.5. Incompatible Materials

Strong oxidizing agents.

10.6. Hazardous Decomposition Products

No hazardous decomposition products are known

SECTION 11: Toxicological Information

11.1. Information On Toxicological Effects

Prolonged inhalation may be harmful. Frequent or prolonged contact may defat and dry the skin, leading to discomfort and dermatitis. Causes serious eye irritation. Expected to be a low ingestion hazard.

Acute And Chronic Toxicity

Components

Ethanol	
<u>Inhalation Rat (Vapor LC50):</u>	<u>Oral Rat (LD50):</u>
125 mg/l, 4 Hours	10470 mg/kg
Tert-butyl Alcohol	
<u>Inhalation Rat (Vapor LC50):</u>	<u>Oral Rat (LD50):</u>
>10000 ppm, 4 Hours	3384 mg/kg
Denatonium Benzoate	
<u>Inhalation Rat (Vapor LC50):</u>	<u>Oral Rat (LD50):</u>
0,2 mg/l, 4 Hours	749 mg/kg

Immediate Effects	Not expected to be acutely toxic
Delayed Effects	Not expected to be acutely toxic
Irritation/Corrosivity Data	Prolonged skin contact may cause temporary irritation. Causes serious eye irritation.
Respiratory Sensitization	Not a respiratory sensitizer
Dermal Sensitization	This product is not expected to cause skin sensitization.
Germ Cell Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or
Component Carcinogenicity	None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA
Reproductive Toxicity	This product is not expected to cause reproductive or developmental effects
Specific Target Organ Toxicity - Single Exposure	Not classified
Specific Target Organ Toxicity - Repeated Exposure	Not classified
Aspiration Hazard	Not an aspiration hazard.
Medical Conditions Aggravated By Exposure	Prolonged inhalation may be harmful

SECTION 12: Ecological Information

12.1. Toxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment

Components

Algae (EC50)

Ethanol

275 mg/l, 72 hours

Fish (LC50)

11200 mg/l, 24 hours

Invertebrate (EC50)

Freshwater invertebrate 5012 mg/l, 48 hours

Marine water invertebrate 857 mg/l, 48 hours

12.2. Persistence And Degradability

Biodegradable.

12.3. Bioaccumulative Potential

Not available.

12.4. Mobility In Soil

Not available.

12.5. Results Of PBT And vPvB Assessment

Not available.

12.6. Other Adverse Effects

Not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Waste Disposal Methods:

Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Do not incinerate sealed containers. Dispose of contents/container in accordance with local/regional/national/international regulations.

Component Waste Numbers:

D001: Waste Flammable material with a flash point <60 °C. The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Contaminated Packaging:

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transportation Information

UN Model Regulations (ADR/RID, IMDG, IATA/ICAO): Not regulated as dangerous for transport.

14.1. UN Number	UN1170
14.2. UN Proper Shipping Name	Ethanol solution
14.3. Transport Hazard Class(es)	Not applicable
Class	3
Subsidiary risk	-
Label(s)	3
14.4. Packing Group	II
14.5. Environmental Hazards	Not harmful to the environment.
Marine Pollutant	No
14.6. Special Precautions For User	Read safety instructions, SDS and emergency procedures before handling
EmS	F-E, S-D
14.7. Transport In Bulk According To Annex II Of MARPOL73/78 And The IBC Code	This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II. This product is listed in the IBC Code. Product name: Ethyl Alcohol Ship type: - Pollution category: Z

SECTION 15: Regulatory Information

15.1. Safety, Health And Environmental Regulations/Legislation Specific For The Substance Or Mixture

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4): Not listed.

SARA 304 Emergency release notification: Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053): Not listed.

TSCA: All components of the mixture on the TSCA 8(b) inventory are designated "active".

SARA 302 Extremely hazardous substance: Not listed.

SARA 311/312 Hazardous chemical: Yes

Classified hazard categories: Flammable (gases, aerosols, liquids, or solids). Serious eye damage or eye irritation.

SARA 313 (TRI reporting): Not regulated.

Specific Provisions Not available

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: Other Information

This document has been prepared in accordance with the Regulation on Safety Data Sheets for Hazardous Substances and Mixtures, published in the 29204 numbered Official Gazette on 13.12.2014.

This document has been prepared by the certified author with certificate number IGU-135322.