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MATERIAL SAFETY DATA SHEET

PRODUCT NAME: DENATURED ETHYL ALCOHOL (96% VOL, 192 PROOF)

MSDS NO: 01

EFFECTIVE DATE: March 3, 2011

EXPORTED BY: Aytas Tarim Urunleri Sanayi Ve Ticaret A.S. , Aegean Free Zone Branch, Turkey

TRANSPORTATION (DETAILED SEE PAGE 7)

PRIMARY CLASS: 3 **CLASS NAME:** FLAMMABLE LIQUID **EC:** 200-578-6 **CAS:** 64-17-5 **UN:** 1987

SUBSIDIARY CLASS: NONE **SHIPPING NAME:** DENATURED ETHANOL **PG:** II **IMO:** 3 **EMS:** 3-06 OR (FE , SD) **ADR:** 3/3b

R: R11 **S:** S2 S7 S16 **F:** FLAMMABLE **COSTUM TARIFF:** 22.07.20.00.10.13 **HSCODE:** 220720

DHL TNT UPS etc: No need any emergency document by air transport if ethanol is sample and total volume is under 100ml

I. EMERGENCY AND FIRST AID PROCEDURE**INGESTION**

- Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing.
- DO NOT INDUCE VOMITING.
- Have victim drink about 250ml (8fl. oz.) of water to dilute material in stomach.
- If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.
- Seek medical assistance.

SKIN

- Flush contaminated area with water for at least 20 minutes.
- Remove contaminated clothing under running water.
- Completely decontaminate clothing before re-use, or discard.
- If irritation occurs seek medical attention.

INHALATION

- Remove victim to fresh air.
- Artificial respiration should be given if breathing has stopped and cardiopulmonary resuscitation if heart has stopped.
- Oxygen may be given if necessary.
- Seek medical attention immediately.

EYES

- Immediately flush eyes with water for at least 20 minutes, holding the eyelids open.
- Seek medical attention immediately.

NOTES TO PHYSICIAN

- Symptoms of ethanol intoxication vary with the alcohol level of the blood. Mild alcohol intoxication occurs at blood levels between 0.05-0.15% and approximately 25% of individuals will show signs of intoxication at these levels. Above 0.15% the person is definitely under the influence of ethanol and 50-95% of individuals at this level are clinically

intoxicated. Severe poisoning occurs when the blood ethanol level is 0.3-0.5%. Above 0.5% the individual will be comatose and death can occur.

- The unabsorbed ethanol should be removed by gastric lavage after intubating the patient to prevent aspiration.
- Avoid the use of depressant drugs or the excessive administration of fluids.

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN.

II. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT °C: 17°C(60°F, Tag closed cup), 18 C (68°F, Open cup)

OTHER IMPORTANT DATA

COMPONENT	%V/V	FLAMMABLE		VAPOUR	VAPOUR	AUTOIGNITION
		LIMITS %V/V 20°C	LOWER	UPPER	PRESSURE	DENSITY
				KPA AT	AIR=1	
Ethanol	96,1 to 96,5%	3.3	19	5,87	1,6	422°C (791,6°F)
Water	Balance					

Denaturants

Denatonium Benzoate 0,8gr/hl

Tertiary Butanol 78 gr/hl

EXTINGUISHING MEDIA

- Apply alcohol-type or all-purpose-type foams by manufacturers' recommended techniques for large fires.
- Use carbon dioxide or dry chemical media for small fires.
- Water is generally unsuitable and may help to spread the fire.

SPECIAL FIREFIGHTING PROCEDURES

- Use water spray to cool fire-exposed containers and structures.
- Use water spray to disperse vapours; reignition is possible.
- Use self-contained breathing apparatus and protective clothing.

UNUSUAL FIRE AND EXPLOSIONHAZARDS

- Vapours form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point.

III. IDENTIFICATION

CHEMICAL NAME: DENATURED ETHYL ALCOHOL (96,1% to 96,5% VOL)

FORMULA: CH₃ - CH₂ - OH

CHEMICAL FAMILY: ALCOHOLS

MOLECULAR WEIGHT: 46.07 (1)

SYNONYMS: Denatured Ethanol, Denatured Alcohol, Denatured Ethyl Alcohol 192 proof, Denatured Ethyl Alcohol 192 proof, Denatured Ethyl Alcohol Neutral, Denatured Ethanol ENA

USE: General purpose organic solvent, aerosols, cosmetics

EC NO: EC Index NO: 6003-002-00-5, EC No: 200-578-6

IV. PHYSICAL DATA

BOILING POINT °C at 760mm Hg: 78.3

FREEZING POINT °C: -118 °C

DENSITY: kg/L @ 20°C: 0.803 to 0.807

COEFFICIENT OF WATER/OIL DISTRIBUTION: Separates from oil

pH: Not applicable

DISTILLATION RANGE °C: 78.0 - 79.0

MISCIBILITY IN WATER: Complete

% VOLATILES BY VOLUME: 100

EVAPORATION RATE (butyl acetate = 1): 1.7

VISCOSITY: 1200 cP at 20°C

ODOR: Alcohol odor, ENA Ethanol Alcohol smell, bitter taste

MOLECULAR WEIGHT: 46,04

APPEARANCE AND ODOUR: Colorless liquid with typical lower alcohol odor. Odor threshold is in the range of 0.1 to 5100 ppm, according to the Canadian Standards Association publication Z94.4-M1982 (Appendix 1). Taste is bitter.

V. INGREDIENTS AND TOXICOLOGICAL DATA

INGREDIENT	% V/V	CAS NO.	TLV, ppm	LC50, ppm/4h. RAT, INHAL.mg/kg	LD50, mg/kg RAT, ORAL	LD50, mg/kg RABBIT, SKIN
Ethyl Alcohol	96,1to96,5	64-17-5	1000	31,623	7,060	20,000
Water	Balance					
Denaturants						
Denatonium Benzoate	0,8gr/hl	3734-33-6		1,500	500	2,000
Tertiary Butanol	78 gr/hl	75-65-0		10,000	2,743	2,000

VI. WHMIS CLASSIFICATION AND SYNERGISTIC MATERIALS

WHMIS CLASSIFICATION: Flammable liquid, eye irritant.

SYNERGISTIC MATERIAL: Carbon tetrachloride, chloroform, bromotrichloromethane, dimethylnitrosamine.

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

VII. HEALTH HAZARD DATA

INGESTION: May cause dizziness, faintness, drowsiness, decreased awareness and responsiveness, euphoria, abdominal discomfort, nausea, vomiting, staggering gait, lack of coordination and coma.

SKIN ABSORPTION: No adverse effects with normal skin. However, potentially harmful amounts of material may be absorbed across markedly abraded skin when contact is sustained, particularly in children.

INHALATION: High vapor concentrations may cause a burning sensation in the throat and nose, stinging and watering in the eyes. At concentrations which cause irritation, dizziness, faintness, drowsiness, nausea and vomiting may occur.

SKIN CONTACT: No evidence of adverse effects from available information.

EYE CONTACT: Severe eye irritant. Vapors can irritate eyes. Eye damage from contact with liquid is reversible and proper treatment will result in healing within a few days. Damage is usually mild to moderate conjunctivitis, seen mainly as redness of the conjunctiva.

EFFECT OF REPEATED OVEREXPOSURE: Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: Repeated exposure to ethanol may exacerbate liver injury produced from other causes.

OTHER EFFECTS OF OVEREXPOSURE: Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the central nervous system of the fetus, producing a collection of effects which together constitute the fetal alcohol syndrome. These include mental and physical retardation, disturbances of learning, motor and language deficiencies, behavioral disorders, and small size head.

VIII. REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: Sources of ignition

INCOMPATIBILITY: Oxidizing materials

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Burning can produce carbon monoxide and/or carbon dioxide and/or formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: None currently known

IX. SPILL OR LEAK PROCEDURES

SPILL

- Contain spilled material.
- Provide adequate ventilation and protective equipment.
- Remove sources of heat, sparks or flames.
- Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal.

WASTE DISPOSAL

- Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all federal, provincial and local government regulations.

X. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Up to 1000 ppm, an approved organic vapour cartridge respirator can be used.

VENTILATION: For concentrations above 1000 ppm, an air-supplying respirator is recommended. The ventilation system should be non-sparking, grounded and separate from other exhaust ventilation systems. Local ventilation is recommended when handling.

PROTECTIVE GLOVES: Neoprene, butyl or natural rubber.

EYE PROTECTION: Chemical resistant mono goggles when handling

OTHER PROTECTIVE EQUIPMENT: Eye bath, safety shower and other protective equipment as required.

XI. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE

- Keep away from heat, sparks and flames.

TAKEN IN HANDLING AND STORING

- Keep container closed when not in use.
- Use with adequate ventilation.
- Avoid breathing vapors.
- Avoid contact with eyes and skin.
- Wash exposed skin thoroughly after handling.
- Take precautions to prevent static electricity build-up when transferring contents.

OTHER PRECAUTIONS

- Good personal hygiene practices are suggested, such as abstaining from eating, drinking and smoking in the workplace.

XII. TRANSPORT DETAILS

U.S. DOT 49 CFR 172.101:

PROPER SHIPPING NAME: Denatured Ethanol (ALCOHOLS, N.O.S.)

ID NUMBER: UN1987

HAZARD CLASS OR DIVISION: 3

PACKING GROUP: II

LABELING REQUIREMENTS: 3

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:

SHIPPING NAME: Denatured Ethanol (ALCOHOLS, N.O.S.)

UN NUMBER: UN1987

CLASS: 3

PACKING GROUP/RISK GROUP: II

LAND TRANSPORT ADR: 3/3B

PROPER SHIPPING NAME: Denatured Ethanol (ALCOHOLS, N.O.S.)

UN NUMBER: UN1987

CLASS: 3

CLASSIFICATION CODE: F1
PACKING GROUP: II
LABELS: 3

LAND TRANSPORT RID:
PROPER SHIPPING NAME: Denatured Ethanol(ALCOHOLS, N.O.S.)
UN NUMBER: UN1987
CLASS: 3
CLASSIFICATION CODE: F1
PACKING GROUP: II
LABELS: 3

AIR TRANSPORT IATA:
PROPER SHIPPING NAME: Denatured Ethanol (ALCOHOLS, N.O.S.)
UN/ID NUMBER: UN1987
CLASS OR DIVISION: 3
HAZARD LABELS: 3
PACKING GROUP: II

AIR TRANSPORT ICAO:
PROPER SHIPPING NAME: Denatured Ethanol (ALCOHOLS, N.O.S.)
UN NUMBER: UN1987
CLASS OR DIVISION: 3
LABELS: 3
UN PACKING GROUP: II

MARITIME TRANSPORT IMDG:
PROPER SHIPPING NAME: Denatured Ethanol(ALCOHOLS, N.O.S.)
UN NUMBER: UN1987
CLASS OR DIVISION: 3
PACKING GROUP: II
EMS: 3-06 (OR 'FE , SD')

XIII. LABELING

Labeling according to EC Directives

SYMBOL: F (Highly Flammable) **R-PHRASES:** 11 (Highly Flammable, R11)
S-PHRASES: 2 -7 -16 (Keep out of the reach of children, Keep container tightly closed, Keep away from sources of ignition, No smoking) **EC-NO:** 200-578-6 (EC Label)

XIV. MSDS PREPARATION

PREPARED By Aytas Tarim Urunleri Sanayi Ve Ticaret A.S

AYTAS TARIM URUNLERI SANAYI TICARET A.S. URGES EACH CUSTOMER OR RECIPIENT OF THIS MSDS TO STUDY IT CAREFULLY TO BECOME AWARE OF AND UNDERSTAND THE HAZARDS ASSOCIATED WITH THE PRODUCT. THE READER SHOULD CONSIDER CONSULTING REFERENCE WORKS OR INDIVIDUALS WHO ARE EXPERTS IN VENTILATION, TOXICOLOGY OR FIRE PREVENTION, AS NECESSARY OR APPROPRIATE TO USE AND UNDERSTAND THE DATA CONTAINED IN THIS MSDS.

TO PROMOTE SAFE USE AND HANDLING OF THIS PRODUCT, EACH CUSTOMER OR RECIPIENT SHOULD

- (1) NOTIFY EMPLOYEES, AGENTS, CONTRACTORS AND OTHERS WHO MAY USE THIS MATERIAL, OF THE INFORMATION IN THIS MSDS AND ANY OTHER INFORMATION REGARDING HAZARDS OR SAFETY,
- (2) FURNISH THIS SAME INFORMATION TO EACH CUSTOMER FOR THE PRODUCT, AND
- (3) REQUEST CUSTOMERS TO NOTIFY THEIR EMPLOYEES, CUSTOMERS, AND OTHER USERS OF THE PRODUCT OF THIS INFORMATION.



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