

SAFETY DATA SHEET
DENATURED ETHANOL

1. PRODUCT AND COMPANY IDENTIFICATION	
Trade Name	TSDA 1, Denatured Ethanol B. Denatured Ethanol.
Manufacturer/Supplier	HAYMAN LIMITED
Address	Eastways Park Witham Essex CM8 3YE
Phone Number	01376 535900
Fax Number	01376 510709
Emergency Phone Number	01865 407333
2. COMPOSITION / INFORMATION ON THE COMPONENTS	
Product Trivial Name	ETHANOL DENATURED
Product Formal Name	ETHANOL DENATURED
Product Chemical Family	Aliphatic alcohol
CAS Number	64-17-5
EINECS / ELINCS	200-578-6
3. HAZARD IDENTIFICATION	
This substance is classified as dangerous according to Directive 1999/45/EEC as amended and adapted	
Main Hazards:	
Physical/chemical hazards	Highly flammable
Human health hazards	Not classified as dangerous
Environmental hazards	Not classified as dangerous
Health Effects – Eyes	May cause transient eye irritation
Health Effects – Skin	Unlikely to cause appreciable irritation even on repeated contact. Unlikely to be absorbed in harmful amounts.
Health Effects – Ingestion	Swallowing may have the following effects:- central nervous system depression, nausea/vomiting, loss of coordination, symptoms similar to alcohol intoxication.
Health Effects – Inhalation	Inhalation of vapours may cause headaches, dizziness, drowsiness and nausea.

4. FIRST AID MEASURES

First Aid – Eyes	In case of contact, immediately flush eyes with a copious amount of water for at least 15 minutes. Get medical attention if irritation occurs.
First Aid – Skin	In case of prolonged or repeated contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.
First Aid – Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.
First Aid – Inhalation	If inhaled, remove to fresh air. Get medical attention if symptoms appear.

5. FIRE FIGHTING MEASURES


Suitable Extinguishing Media	In case of fire, use water fog, foam, dry chemical or carbon dioxide extinguisher or spray.
Unsuitable Extinguishing Media	Do not use water jet.
Hazardous decomposition products:	These products are carbon oxides (CO ₁ CO ₂)
Unusual fire/explosion hazards	Highly flammable liquid and vapour. Vapour may cause flash fire. Vapours may accumulate in low or confined areas, travel a considerable distance to a source of ignition and flash back. May re-ignite itself after fire is extinguished. Vapours may form explosive mixtures with air. Hot containers may explode.
Special fire-fighting procedures	DO NOT FIGHT FIRE WHEN IT REACHES MATERIAL. Withdraw from fire and let it burn. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows. Cool closed containers exposed to fire with water.
Protective Equipment for Fire-fighting	Fire fighters should wear self-contained positive pressure breathing apparatus (SCBA) and full turnout gear.

6. ACCIDENTAL RELEASE MEASURES

Environmental Precautions	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) and use a non-sparking or explosion proof means to transfer material to a sealed, appropriate container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Avoid contact of spilt material with soil and prevent runoff entering surface waterways. See Section 13 for Waste Disposal Information.
Personal Precautions	Immediately contact emergency personnel. Eliminate all ignition sources. Keep unnecessary personnel away. Use suitable protective equipment (See Section 'Exposure controls, personal protection'). Follow all fire fighting procedures (See Section: 'Fire-fighting measures')> Do not touch or walk through spilled material.

Personal protection in case of spillage	Splash goggles. Full suit. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product.
7. HANDLING AND STORAGE	
Handling	Keep container closed. Use only with adequate ventilation. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Avoid inhalation of vapour and spray mist. Avoid contact with eyes, skin and clothing.
Storage	Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).
8. EXPOSURE CONTROLS / PERSONAL PROTECTION	
Occupational Exposure Standards	EH40-WEL (United Kingdom (UK), 1.2005) TWA: 1920 mg/m ³ 8 hour(s) TWA: 1000 ppm 8 hour(s)
Control Measures	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapours below their respective occupational exposure limits
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.
Respiratory Protection	Use with adequate ventilation. If ventilation is inadequate, use certified respirator that will protect against organic vapour.
Skin and body	Avoid contact with skin. Wear clothing and footwear that cannot be penetrated by chemicals or oil.
Hand Protection	Wear gloves that cannot be penetrated by chemicals or oil. (Butyl rubber gloves. Neoprene gloves. Nitrile gloves.)
Eye Protection	Chemical goggles or face shield.
9. PHYSICAL AND CHEMICAL PROPERTIES	
Physical State	Liquid
Colour	Colourless
Odour	Alcohol-like
Boiling Range/Point (deg C)	78
Density	789 to 807 kg/m ³ (0.789 to 0.807 g/cm ³)
Vapour density (Air = 1)	1.59
Solubility	Easily soluble in cold water
LogK_{ow}	The product is more soluble in water; log (octanol/water) = 0.32

10. STABILITY AND REACTIVITY	
Conditions to Avoid	High temperatures. Keep away from sources of ignition.
Incompatibility with various substances	Incompatibility: oxidising agents, acids
Hazardous polymerisation	Will not occur
11. TOXICOLOGICAL INFORMATION	
Acute Toxicity	Oral LD50 (rat) 6200-17800mg/kg. Inhalation LC50 (rat) 8000mg/litre/4h. Dermal LD50 (rabbit)>20000mg/kg.
Irritancy – Eyes	The eye irritancy has been investigated by OECD Test method 405. Single application to the rabbit eye produced conjunctival irritation and transient corneal damage. The effect was insufficient to warrant classification as an eye irritant.
Irritancy – Skin	A single 4h semi-occlusive application to intact rabbit skin produced minimal signs of irritation (mean scores for erythema or oedema less than 2).
Skin Sensitisation	The material is not sensitising in standard animal tests. In rare cases non-irritant contact dermatitis has been identified in humans after skin exposure to this material. Such cases have been identified as delayed hypersensitivity or as urticarial reactions. In reactive individuals such reactions may also be elicited by drinking alcoholic drinks or by cross-reaction to certain other alcohols.
Sub-acute/Subchronic Toxicity	It has been shown in many animal experiments that the repeated oral consumption of large doses of ethanol can lead to damage in practically all organ systems. The main manifestations of the toxic effects are shown by the liver.
Chronic Toxicity/Carcinogenicity Genotoxicity	No convincing evidence of carcinogenic effects in animal studies. The product has been tested in a number of bacterial and mammalian systems. The product did not exhibit mutagenic activity in the following systems (with and without metabolic activation): Drosophila. Salmonella typhimurium. Human lymphocytes in vitro. Most in vitro tests and all in vivo tests for chromosome aberrations report negative results. The product did not induce micronuclei in standard bone marrow tests in vivo. There is some evidence that ethanol both induces SCE in vivo and can also act as an aneugen at high doses. Overall, there is no robust evidence that ethanol is a genotoxic hazard according to the criteria normally applied for the purpose of classification and labelling of industrial chemical.
Reproductive Development Toxicity	Adverse effects on the male reproductive system have been reported in laboratory animals following repeated exposure to high concentrations. Developmental effects have been observed in laboratory animals following large oral exposures.
Human Data	In humans excessive consumption of alcoholic beverages during pregnancy is associated with the induction of Foetal Alcohol Syndrome in the offspring. Reduced birth weight and physical and mental defects occur. There is no evidence that such effects might be caused by exposures other than direct ingestion of alcoholic drinks. In humans high lifetime consumption of alcoholic beverages can be associated with certain cancers and effects on the liver. There is no evidence that these can be caused by exposure other than direct ingestion of alcoholic drinks (IARC 1988).

12. ECOLOGICAL INFORMATION	
Mobility	This product is likely to volatilise rapidly into the air because of its high vapour pressure. The product is poorly absorbed onto soils or sediments.
Persistence/Degradability	This product is readily biodegradable.
Bio-accumulation potential	Product is not expected to bioaccumulate through food chains in the environment..
Environmental hazards Other ecological information	Not classified as dangerous Not toxic. Acute LC50/EC50 values for fish, invertebrates and algae typically >1000 mg/l.
13. DISPOSAL	
Disposal Consideration / Waste information	Dispose of in accordance with all applicable local and national regulations. Avoid contact of spilled material and run off with soil and surface waterways. Consult an environmental professional to determine if local or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities.
14. TRANSPORT INFORMATION	
UN Number	UN1170
Proper shipping name	Ethanol.
Packaging Group	II
ADR/RID Substance Identification Number	UN1170
ADR/RID - Class	3
ADR/RID – Packing Group	II
IMDG -Class	3
IMDG – Packing Group	II
ADNR – Class	3
ADNR – Packing Group	II
IATA - Class	3
IATA – Packing Group	II
15. REGULATORY INFORMATION	
Labelling Information	 Highly Flammable

Risk phrases	R11: Highly flammable.
Safety phrases	S7: Keep container tightly closed. S16: Keep away from sources of ignition - No Smoking.
EU regulations	Classification and labelling have been performed according to EU directives 1999/45/EC and 67/548/EEC as amended and adapted.
Listed Inventories	AUSTRALIAN INVENTORY (AICS) CANADA INVENTORY (DSL) CHINA INVENTORY (IECS) EC INVENTORY (EINECS/ELINCS) JAPAN INVENTORY (ENCS) KOREA INVENTORY (ECL) PHILIPPINE INVENTORY (PICS) US INVENTORY (TSCA)
16. OTHER INFORMATION	
MSDS first issued	17/09/93
MSDS data revised	16/01/08
Reference	XETHX 8.00 GB Current
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