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VERSION NO. : 1

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Safety Data Sheet

1. Identification Of The Material & Supplier

Product Name : Ethyl Alcohol

Other Names(s) : Industrial Alcohol, Ethyl Alcohol, Ethanol, Denatured

Chemical Formula : C₂H₅OH M120 147

Use or Description : Industrial Solvent.

Suppliers Name : Hi-Tec Ink

Street Address : Unit 4 / 231 Annex Road , Christchurch 8053, New Zealand.

Telephone : +64 3 366 0100

Facsimile :

Emergency Telephone : National Poisons & Hazardous Chemicals
Information Centre : 0800 POISON (0800 764 766)
NZ Emergency Services : Dial 111 (if in doubt)
Geoffrey Blakey-Scholes : Bus +64 3 666-0100
Mobile 021 312 676

2. Hazards Identification

Hazard Classification:

3.1B - Highly Flammable Liquid and vapour.
6.4A - Substance that causes serious eye irritation.
6.1D (Oral) - Substance that is harmful if swallowed.
6.1E (Dermal) - Substance that may be harmful in contact with skin.
9.1D - Substance that is harmful to aquatic life.

Hazard statement codes:

H225 Highly Flammable liquid and vapour.
H320 Causes serious eye irritation.
H302 Harmful if swallowed.
H313 May be Harmful in contact with skin.
H403 Harmful to aquatic life.

Precautionary statement codes - prevention:

P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection.
P273 Avoid release to the environment.

Precautionary statement codes - Response.

P101 If medical advice is needed, have product container or label at hand.

P301 + P312 IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.

P330 Rinse mouth

P312 Call a POISON CENTRE or doctor/physician.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P303+P361+P353 IF ON SKIN: Remove / Take off all contaminated clothing. Rinse skin with water.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

P370+P378 In case of fire: Use foam, carbon dioxide or dry chemical.

Precautionary statement codes - Storage:

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

Precautionary statement codes - Disposal:

P501 Disposal of this substance must be in accordance with the Hazardous Substances (Disposal) Regulations 2001 with reference to all Council regulations. This may also include any method of disposal that must be avoided.

3. Composition / Information On Ingredients

Potentially Hazardous Ingredients	% by weight (approx)	TLV (TWA)		STEL (TWA)		Note CAS No.
		mg/m3	ppm	mg/m3	ppm	
Ethyl Alcohol	98	1900	1000			64-17-5
Not Available	2	N/A	N/A			N/A

4. First Aid Measures

Inhalation	Remove affected person from further exposure and keep warm and rested. If unconsciousness occurs seek immediate medical assistance. Use mouth to mouth resuscitation if breathing has stopped.
Skin Contact	Remove contaminated clothing and wash contact areas with plenty of water for at least 15 minutes. Get medical attention if symptoms persist.
Eye Contact	Flush affected eye thoroughly with water for at least 15 minutes. remove contact lenses. Obtain immediate medical assistance.
Ingestion	Call a physician. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.
Health Hazard : Information	Evidence from animal tests and studies on exposed humans indicate that repeated or prolonged exposure to this chemical could result in liver damage.

5. Fire Fighting Measures

Extinguishing Media to be used

☒ Foam ☒ Dry Chemical ☒ Water Spray
☒ Carbon Dioxide ☐ Alcohol Foam ☐ Other...

Special Fire Fighting Procedures

Fire fighters must use recommended protective equipment and self contained breathing apparatus. Cool storage drums with water spray. Evacuate area downwind of fire.
Flash back possible over considerable distance. Do not allow run-off from fire fighting to enter drains or water courses.

Unusual Fire and Explosion Hazards

Vapour / air mixture may ignite explosively. Flashback along vapour trail may occur.

6. Accidental Release Measures

Spill and Leak Procedure

Evacuate spill area and eliminate all ignition sources. If possible remove leaking containers to detached area while wearing approved respirator and personal protection equipment. Bund spill with inert material (eg. Sand, Earth Etc.) and absorb spilled product on fire retardant sawdust, diatomaceous earth etc. Transfer remaining product in leaking container to new container and solid absorbent materials to separate container for disposal. Dispose of waste at an appropriate disposal facility in accordance with local authority by laws. Prevent entry into drainage systems, rivers etc.

7. Handling & Storage

Handling

Avoid breathing vapours or spray mists. Use only with adequate ventilation. (use vapour respirator if inadequate ventilation). To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring materials. Use explosion proof electrical (venting, lighting and material handling) equipment.

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 Control / Personal Protection

Recommended Personal Protective Equipment to be worn during use of product: (X)

- | | |
|---|---|
| <input checked="" type="checkbox"/> Protective Overalls | <input checked="" type="checkbox"/> Synthetic Apron |
| <input type="checkbox"/> Safety Glasses | <input checked="" type="checkbox"/> Vapour Respirator |
| <input checked="" type="checkbox"/> Splash Goggles | <input type="checkbox"/> Dust & Vapour Respirator |
| <input type="checkbox"/> Face Shield | <input type="checkbox"/> Full Protective Suit |
| <input type="checkbox"/> Airline Hood or Mask | <input checked="" type="checkbox"/> Boots |
| <input checked="" type="checkbox"/> Gloves | <input type="checkbox"/> Other... |

9. Physical And Chemical Properties

Appearance and Odour

Colourless liquid with sweet alcohol odour

Density

0.79

Viscosity

Boiling Range, °C

65 to 78

Flash Point° Method

NA

Vapour Pressure, mm Hg at 20°
43.9

Vapour Density (Air=1)
1.6

Melting Point/Freezing Point, °
-97.8 to -113.8 degC

Aniline Point, ° (Mixed)

Refractive Index, @ 20°
NE

Residue On Evaporation, mg/100ml
NE

14 deg C (Closed Cup)

Evaporation Rate (BuAc=100)
116

% Volatile Matter (by weight)
100 %

Solubility in Water
Complete

Aromatics, %
NA

Colour
Clear

pH
NA

Auto Ignition Temperature, °
363 deg C (Ethanol)

Flammability Limit, %vol

Lower (LEL)
6%

Upper (UEL)
36.5%

NA = Not Applicable, NE = Not Established,
NR = Not Regulated Against D = Decomposes

10. Stability And Reactivity

Reactivity Data

This specially Denatured Alcohol is relatively stable but care should be taken to avoid conditions of heat, sparks, flame, vapour accumulation or build up of static electricity. Contact with strong oxidisers, concentrated nitric acid and concentrated sulphuric acid should be avoided.

Hazardous Decomposition Byproducts

Carbon Monoxide from incomplete burning.

Hazardous Polymerization

☒ Will Not Occur ☐ May Occur ☐ Other...

11. Toxicological Information

Acute Effects of Overexposure

Ingestion

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause systems toxicity with acidosis. May cause central nervous system depression, characterised by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Skin Contact

Moderate skin irritation may be experienced with repeated skin exposure due to defatting nature of this product.

Inhalation

Causes respiratory tract irritation. Inhalation of high concentrations may cause central nervous system effects characterised by nausea, headaches, dizziness unconsciousness and coma. Vapours may cause dizziness or suffocation.

Eye Contact

Delayed Effects	May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the developments of tumors. Prolonged exposure may cause liver, kidney and heart damage.
Mutagenic Effects	Laboratory experiments have resulted in mutagenic effects.
Reproductive Effects	May cause reproductive and fetal effects.
Chronic Effects	Causes severe eye irritation. causes respiratory tract irritation. This substance has severe adverse reproductive and fetal effects in humans. May cause central nervous system depression. May cause liver, kidney, and heart damage. Causes moderate skin irritation

12. Ecological Information

Ecotoxicity: Fish: rainbow trout: LC50= 12900-15300 mg/L; 96 Hr; Flow-through @24-24.3oC Fish: Rainbow trout: LC50=11200 mg/L; 24 Hr; Fingerling (Unspecified) Bacteria: Phytobacterium phosphoreum: EC50 = 34900 mg/L; 5-30min; Microtox test When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would be expected to absorb to sediment or bioconcentrate in fish.
Environment: When released to the atmosphere it will photodegrade in hours (polluted urban atmosphere) to an estimated range of 4 to 6 days in less polluted areas. Rain out should be significant.

13. Disposal Considerations

Waste must be disposed of in accordance with council rules and local environmental control regulations.

14. Transport Information

IMCO No.	Highly Flammable
UN No.	1170
HAZCHEM	3[Y]E
D/Goods Class	3.1 B
UN Packing Group	II

15. Regulatory Information

HSR002528 Cleaning Products (Flammable) Group Standard 2006

16. Other Information

Other Data.

IF PRINTED THIS MSDS SHEET IS UNCONTROLLED.

Hi - Tec Ink urges each customer or recipient of this MSDS to study it carefully to become aware of and the hazards associated with the product.

The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS. To promote safe handling, each customer or recipient should:

- (1) notify its employees, agents, contractors and others whom it knows or believes will use this material or the information in this MSDS and any other information regarding hazards of safety;
- (2) furnish this same information to each of its customers for the product; and
- (3) request its customers to notify their employees, customers, and other users of the product of this information.

NOTE: The information and recommendations contained in this data sheet have been compiled from sources believed to be reliable and represent the best current opinion on the subject. No warranty, guarantee or representation is made by the company as to the absolute correctness or sufficiency of any representation contained in this data sheet and the company assumes no responsibility in connection therewith. Nor can it be assumed that all acceptable safety measures are contained in this data sheet or that other additional measures may not be required under particular or exceptional circumstances or conditions.