TARAC®
Spirited Innovation

Safety Data Sheet
Industrial Spirit

1. IDENTIFICATION OF MATERIAL

Product Name	Industrial Spirit
Chemical Name	Ethanol
Synonyms	Brine Refrigerant, Denatured Brine Spirit
Shipping Name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)
Chemical Formula	C_2H_6O
CAS No	64-17-5
Product Code	BRS-00
Use(s)	Refrigerant for cooling systems.

Supplier Name	Tarac Technologies Pty Ltd
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2. HAZARDS IDENTIFICATION

CLASSIFICATIONS
Classified as hazardous according to NOHSC criteria.
Classified as a dangerous good by the criteria of the ADG code.

UN No	1170	**DG Class**	3	**Subsidiary Risk(s)**	None Allocated
Pkg Group	II	**Hazchem Code**	●2YE	**EPG**	3A1

GHS CLASSIFICATION
- Flammable liquids (Category 3)
- Eye irritation (Category 2A)


Flammable


Health hazards

SIGNAL WORD
- DANGER

HAZARD STATEMENTS
- H225 - Highly flammable liquid and vapour.
- H319 - Causes serious eye irritation.

PRECAUTIONARY STATEMENTS

Prevention

- 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.
- P261 - Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
- P264 - Wash skin thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P271 - Use only outdoors or in a well-ventilated area.
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response

- P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
- P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- 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 extinguishing media detailed in Section 5 for extinction.

Storage

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

Disposal

- P501 - Dispose of contents/container to hazardous or special waste collection point

3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient	Formula	CAS No	Content
ETHANOL	C2-H6-O	64-17-5	80.0% ± 10.0
METHANOL	CH4O	67-56-1	>5.0%
WATER	H_2O	7732-18-5	15.0% ± 10.0

4. FIRST AID MEASURES

GENERAL ADVICE

- Show this safety data sheet to the doctor in attendance

IN CASE OF EYE CONTACT

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

IN CASE OF SKIN CONTACT

- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water (and soap if available)

- Seek medical attention in event of irritation.

IF INHALED

- If fumes or combustion products are inhaled remove from contaminated area into fresh air
- Seek medical advice

IF SWALLOWED

- If swallowed do NOT induce vomiting.
- Immediately make person drink water (not more than 2 glasses)
- Seek medical advice.

5. FIREFIGHTING MEASURES

SUITABLE EXTINGUISHING EQUIPMENT

- Alcohol stable foam
- Dry chemical powder
- BCF (where regulations permit)
- Carbon dioxide
- Water spray or fog - large fires only

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

- Highly flammable and forms explosive mixtures in air at ambient temperatures.
- May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.
- Do not expose to heat or ignition sources.
- Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones etc.
- Earth containers when dispensing fluids.
- Vapours are heavier than air and may spread along the floor.
- Beware of flashback.

ADVICE FOR FIREFIGHTERS

- Stay in danger area only if wearing self-contained breathing apparatus. Prevent skin contact by keeping safe distance or by wearing suitable protective clothing.

6. ACCIDENTAL RELEASE MEASURES

SPILLAGE

- If spilt (bulk), wear splash-proof goggles and PVC/rubber gloves.
- Absorb spill with sand or similar and place in sealed containers for disposal.
- Wash spill site down with water.
- For small amounts, dilute with water and flush to sewer.
- Caution: surfaces may be slippery.

7. STORAGE & HANDLING

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

- Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

ENVIRONMENTAL PRECAUTIONS

- Do not let product enter drains. Risk of explosion.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

- Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material. Dispose of properly. Clean up affected area.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE STANDARDS

- ETHANOL (64-17-5)
- ES-TWA: 1000 ppm (1880 mg/m3)
- WES-TWA: 1000 ppm (1880 mg/m3)

ENGINEERING CONTROLS

Ensure adequate natural ventilation. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back.

INDIVIDUAL PROTECTION MEASURES

EYE & FACE PROTECTION

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants.
- In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.

BODY PROTECTION

- Wear chemical protective gloves, e.g. PVC.
- Wear safety footwear or safety gumboots, e.g. Rubber
- Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).
- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

RESPIRATORY PROTECTION

- Required when vapours/aerosols are generated.
- Recommendations on filtering respiratory protection are based on standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

OTHER PROTECTION

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.
- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).
- Non sparking safety or conductive footwear.
  Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance	Clear colourless liquid	**Solubility (water)**	Soluble
Odour	Slight odour	**Specific Gravity**	0.8552
pH	NOT AVAILABLE	**% Volatiles**	NOT AVAILABLE
Vapour Pressure	5.9 hPa @ 20°C	**Flammability**	Highly flammable
Vapour Density	NOT AVAILABLE	**Flash Point**	15°C
Boiling Point	77.9°C	**Upper Explosion Limit**	19 %
Melting Point	NOT AVAILABLE	**Lower Explosion Limit**	3.5 %
Evaporation Rate	NOT AVAILABLE	**Autoignition Temperature**	425°C

10. STABILITY & REACTIVITY

REACTIVITY
- Vapours may form explosive mixture with air

CHEMICAL STABILITY
- Reacts with air to form peroxides. The product is chemically stable under standard ambient conditions (room temperature)

POSSIBILITY OF HAZARDOUS REACTIONS
- No data available

CONDITIONS TO AVOID
- Warming

INCOMPATIBLE MATERIALS
- Aluminium, Acids, Oxidizing agents, Alkali metals, Halogenated compounds, Ammonia, Acid chlorides, Acid anhydrides, Reducing agents, Peroxides

HAZARDOUS DECOMPOSITION PRODUCTS
- In the event of fire, see Section 5

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY
- Oral: No data available
- Symptoms: Possible symptoms - mucosal irritations
- Dermal: No data available

SKIN CORROSION/IRRITATION
- No data available

SERIOUS EYE DAMAGE/IRRITATION
- Mixture causes serious eye irritation

RESPIRATORY OR SKIN SENSITISATION
- No data available

GERM CELL MUTAGENICITY
- No data available

CARCINOGENICITY
- No data available

REPRODUCTIVE TOXICITY
- No data available

SPECIFIC TARGET ORGAN TOXICITY (STOT)—SINGLE EXPOSURE
- Mixture may cause damage to organs -eyes, central nervous system

SPECIFIC TARGET ORGAN TOXICITY (STOT)—REPEATED EXPOSURE
- No data available

ASPIRATION HAZARD
- No data available

OTHER INFORMATION
- To the best of Tarac's knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated., Central nervous system depression, Gastrointestinal disturbance, Nausea, Dizziness, Headache, narcosis, May cause convulsions. Other dangerous properties cannot be excluded. Handle in accordance with good industrial hygiene and safety practice.

12. ECOLOGICAL INFORMATION

ECOTOXICITY
- No data available

PERSISTENCE AND DEGRADABILITY
- No data available

BIOACCUMULATIVE POTENTIAL
- No data available

MOBILITY IN SOIL
- No data available

OTHER ADVERSE EFFECTS
- No data available

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
No special precautions are required for the disposal of this product.

LEGISLATION
Dispose of in accordance with relevant local legislation.

14. TRANSPORT INFORMATION

Shipping Name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)				
UN No	1170	**DG Class**	3	**Subsidiary Risk(s)**	None Allocated
Pkg Group	II	**Hazchem Code**	●2YE	**EPG**	3A1
Limited Qty	1 Litre			**Special Provisions**	144

MARITIME TRANSPORT IMDG

Shipping Name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)				
UN No	1170	**IMDG Class**	3	**Subsidiary Risk(s)**	None Allocated
Pkg Group	II	**Hazchem Code**	●2YE	**EMS No**	F- E, S- D
Limited Qty	1 Litre			**Special Provisions**	144

AIR TRANSPORT (/DGR)

Shipping Name	ETHANOL (ETHYL ALCOHOL) or ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)				
UN No	1170	**ICAO-IATA Class**	3	**Subsidiary Risk(s)**	None Allocated
Pkg Group	II	**Hazchem Code**	●2YE	**ERG Code**	3
Cargo Only	364	**Cargo Only Max**	60 Litre	**P & C Limited Ins**	Y341
Pass & Cargo	353	**Pass & Cargo**	5 Litre	**P & C Limited Qty**	

15. REGULATORY INFORMATION

SAFETY HEALTH AND ENVIRONMENTAL REGULATIONS

A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

REGULATORY LISTS

- Australian Exposure Standards
- Australian Inventory of Chemical Substances (AICS)
- Australian Hazardous Substances Information System – Consolidated Lists

16. OTHER INFORMATION

ABBREVIATIONS

- mg/m3 - Milligrams per cubic metre
- ppm - Parts Per Million
- TWA/ES - Time Weighted Average or Exposure Standard.
- NOS - Not Otherwise Specified
- pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.
- CAS# - Chemical Abstract Service number - to uniquely identify chemical compounds.
- PC—TWA: Permissible Concentration-Time Weighted Average
- PC—STEL: Permissible Concentration-Short Term Exposure Limit
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit。
- IDLH: Immediately Dangerous to Life or Health Concentrations
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value

- BCF: Bio-Concentration Factors
- BEI: Biological Exposure Index

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES

The recommendation for protective equipment contained within 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 Chem Alert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

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In particular, the information contained herein should not be construed as a representation that the product is suitable for any particular purpose or application.

End of Report