SAFETY DATA SHEET

Product Name. # ISOPROPYL ALCOHOL 70%

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Supplier Name:	PharmAust Manufacturing
Address:	15 Townsend Street, Malaga WA 6090.
Telephone:	+61 8 9311 0700
Fax:	+61 8 9311 0799
Emergency:	0413 088 880
Synonym(s):	2-Propanol; Dimethylcarbinol; Isopropanol; Propan-2-ol; Sec-Propyl Alcohol.
Use(s):	Organic Solvent.
Revision Date:	19th January 2022. **Review Date:** 18th January 2027.

2. HAZARDS IDENTIFICATION

Poisons Schedule (Aust): No Data Available.

Globally Harmonised System:

Hazard Classification: **Hazardous:** According to the criteria of the "*Globally Harmonised System of Classification and Labelling of Chemicals" (GHS)*

Hazard Categories:
Flammable Liquids - Category 2
Serious Eye Damage/Irritation - Category 2A
Specific Target Organ Toxicity (Single Exposure) – Category 3

Pictograms:

Signal Word: **DANGER**

Hazard Statements:

- **H225** Highly flammable liquid and vapour.
- **H319** Causes serious eye irritation.
- **H336** May cause drowsiness or dizziness.
- **H335** May cause respiratory irritation.

Precautionary Statements:

General

- **P101** If medical advice is needed, have product container or label at hand.
- **P102** Keep out of reach of children.
- **P103** Read label before use.

Prevention

- **P210** Keep away from heat/sparks/open flames/hot surfaces. No Smoking.
- **P233** Keep container tightly closed.
- **P243** Take precautionary measures against static discharge.
- **P261** Avoid breathing dust/fume/gas/mist/vapours/spray.
- **P271** Use only outdoors or in a well-ventilated area.
- **P280** Wear protective gloves/protective clothing/ eye protection/face protection.

Response

- **P303 + P361 + P353 IF ON SKIN** (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- **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 as outlined in Section 5 of this Safety Data Sheet to extinguish.
- **P304 + P340 IF INHALED:** Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- **P312** Call a POISON CENTER or Doctor/Physician if you feel unwell.

Storage

- **P403 + P235** Store in a well-ventilated place. Keep cool.
- **P403 + P233** Store in a well-ventilated place. Keep container tightly closed.

Disposal

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

National Transport Commission (Australia)
(Australian Code for the Transport of Dangerous Goods By Road & Rail - ADG Code)

Dangerous Goods Classification

Dangerous Goods: According to the criteria of the "*Australian Code for the transport of Dangerous Goods by Road & Rail".*

3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT(s)	CAS NUMBER	CONTENT
Isopropyl Alcohol	67-63-0	68-75% v/v
Purified Water	7732-18-5	to 100%

4. FIRST AID MEASURES

Swallowed: Rinse mouth with water. Give plenty of water to drink provided victim is conscious. Never give anything by mouth to an unconscious person. **DO NOT** induce vomiting. Seek medical attention immediately.

Eye: Immediately flush eyes with plenty of water for at least 20 minutes while holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention.

Skin:	Use gentle, running warm water to rinse the injured area for more than 15 minutes as soon as possible. Remove contaminated clothes and shoes when flushing with water. Contaminated clothes must be washed thoroughly before disposal. If irritation persists, seek medical attention immediately.
Inhalation:	Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. **DO NOT** use mouth to mouth method. Induce artificial respiration with the aid of a pocket mask equipped with a one way valve or other proper respiratory medical device. Seek medical attention immediately.
Advice to Doctor:	Treat symptomatically based on judgement of doctor and individual reactions of patient.

5. FIRE FIGHTING MEASURES

Flammability:	Highly flammable liquid.
Extinguishing Media:	In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions include Carbon Dioxide, Chemical Powder and Alcoholic foam. If safe to do so, remove containers from path of fire.
Fire & Explosion Hazard:	Vapours and liquids are flammable. Liquid will accumulate electric charges. Vapour is heavier than air and may float to places far away and may flashback from ignition sources. High heat will cause this material to decompose and produce toxic gas. The containers in a fire site may rupture and explode.
Products of Combustion:	High heat will cause this material to decompose and produce toxic gas.
Special Information:	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. ***DO NOT*** allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.
Flash Point:	12°C - Closed Cup (Isopropyl Alcohol Data).
Lower Explosion Limit:	2.0% - (Isopropyl Alcohol Data).
Upper Explosion Limit:	Approx.12.0% - (Isopropyl Alcohol Data).
Auto Ignition Temperature:	No Data Available.
Hazchem Code:	• 2YE.

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure:	Shut off all possible sources of ignition, remove all sources of ignition. Use clean, non-sparking tools and equipment. Avoid accidents, clean up immediately. Increase ventilation. Avoid walking through spilled product as it is slippery when spilt. Before the polluted area is cleaned up completely, access

	to the area should be restricted. Make sure the cleaning work is performed by trained personnel. The personnel should wear appropriate personal protective equipment.
Clean Up Procedures:	**DO NOT** come in contact with the released chemical. Avoid the released chemical from entering the sewers or sealed spaces. Stop or reduce the leakage under safe conditions if possible. Use soil, sand or similar inert non-combustible substances that will not react with the spill. For small spills, absorb using an absorbent that will not react with the spill. The polluted absorbent becomes as harmful as the released chemical and should be placed in the appropriate container that is capped and labelled. Use water to clean up the leakage area. For large spills, contact the fire department, emergency rescue units and the supplier for assistance.
Containment:	Stop leak if safe to do so.
Environmental Precautionary Measures:	**DO NOT** let product reach drains or waterways. If product does enter a waterway, advise the *Environmental Protection Authority* or your *local Waste Management.*
Evacuation Criteria:	Evacuate ALL unnecessary personnel.
Personal Precautionary Measures:	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. STORAGE AND HANDLING

Handling:	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact or inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas. Solution is highly flammable. **DO NOT** use near naked flames or other ignition sources. Empty containers pose a fire risk. Evaporate the residue under a fume hood or rinse the empty container with water.
Storage:	Store below 25ºC. Protect from light. **DO NOT** store or transport with flammable gases, explosives, spontaneously combustible substances, oxidising agents or foodstuffs. Store away from heat and sources of ignition. Store in a well-ventilated area and keep containers closed when not in use to minimise evaporation.
Container:	Container type/packaging must comply with all applicable local legislation. Store in the original packaging as approved by the manufacturer.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

General:	The following exposure standard has been established by the *(Australian Safety and Compensation Council – ASCC)* TWA = 400 ppm (983 mg/m³) - (Isopropyl Alcohol Data). STEL = 500 ppm (1230 mg/m³) - (Isopropyl Alcohol Data).

Exposure Limits: No Data Available.

Biological Limits: No Information Available.

Engineering Measures: A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Use an explosion proof exhaust ventilation system. Provide enough fresh air to supplement the air exhausted by the exhaust system. Complete gas exchange or partial exhaust devices. Will not produce sparks if used alone and grounded to the ventilation system. Exhaust opening is connected directly outside the window. Provide enough fresh air to supplement the air exhausted by the exhaust system. **Avoid Inhalation.** Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

Personal Protective Equipment *(PPE)*:

RESPIRATOR: Below 2000 ppm: Fixed amount air supplied type respirator with organic vapour filter cartridge powered for air purification or full chemical filter cartridge respirator with organic vapour filter cartridge, full self-contained or air supplied respirator. Unknown concentration; positive-pressure self-contained respiratory apparatus (full air supply). Escape; Gas mask with organic vapour filter cartridge, life escape self-contained breathing apparatus (AS1715/1716).

EYE PROTECTION: Anti chemical splashing safety goggles, full face masks (AS1336/1337).

HAND PROTECTION: Impermeable gloves made of butyl rubber, rubber-like, Viton, CPF 3, responder (AS2161).

CLOTHING: Chemical-resistant coveralls, splash apron and safety footwear (AS3765/2210).

Work Hygienic Practices: Polluted clothes should be removed as soon as the work is completed. The clothes should be discarded only after being washed. The washing staff should be informed of the harmful effects of the pollution. EATING, DRINKING and SMOKING are **STRICTLY PROHIBITED** in the work area. Wash hands thoroughly after handling the substance. Keep the work area clean.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless Liquid with Alcohol Odour.	**Solubility**	Completely Soluble.
pH	No Data Available.	**Specific gravity**	0.870 – 0.876 @ 20°C
Vapour Pressure	33 torr @ 20°C (Data 100% Isopropyl)	**Flammability**	Highly Flammable
Relative Vapour Density	2.07 (Data 100% Isopropyl)	**Flash Point**	12ºC Closed Cup (Data 100% Isopropyl)
Boiling Point	82.3°C (Data 100% Isopropyl)	**Upper Explosive Limit (UEL)**	Approx 12.0% (Data 100% Isopropyl)
Melting point	88.50°C (Data 100% Isopropyl)	**Lower Explosive Limit (LEL)**	2.0% (Data 100% Isopropyl)

10. STABILITY AND REACTIVITY

Chemical Stability: Product is stable under directed conditions of use, storage and temperature (below 25ºC). Highly flammable liquid and vapour. May slowly form into peroxides.

Conditions to Avoid:	Avoid heat, sparks, and light, static electricity and ignition sources.
Materials to Avoid:	Strong oxidants (such as *Nitrates, Per-chlorates and Peroxides*): increased risks of fire and explosion. *Phosgene* produces Isopropyl Chlorocarbonate and Hydrochloric Acid. *Ferric Salt* causes explosive heat decomposition reaction. *Hydrogen-Palladium* may catch fire if mixed in the air. *Strong Acid* may cause violent reaction. *Alkali Metals or Earth Metals* may release flammable toxic Gases.
Hazardous Decomposition:	Phosgene produces Isopropyl Chlorocarbonate and Hydrochloric Acid. Ferric Salt causes explosive heat decomposition reaction. Hydrogen-Palladium may catch fire if mixed in the air. Strong Acid may cause violent reaction. Alkali Metals or Alkali Earth Metals may release flammable toxic gases.
Hazardous Polymerisation:	No Data Available.

11. TOXICOLOGICAL INFORMATION

General Information:

Acute Toxicity:	**Skin:** Short period of exposure will not irritate skin. **Inhalation:** Concentration of below 400 ppm will cause light irritation of the upper respiratory tract. High concentration will cause dizziness, loss of motor functions (loss of coordination) and deep coma. **Ingestion:** May cause dizziness, stomach-ache, painful cramps, nausea, vomiting and diarrhoea. Exposure to large amount will cause unconsciousness and death. Estimated fatal dosage is approximately 131g. **Eye:** Concentration of below 400 ppm will cause light irritation. Direct contact of liquid with the eye will cause acute irritation. Oral LD50 Rat: 5045 mg/Kg. Inhalation LC50 Rat: 16000 ppm/8h. (Isopropyl Alcohol Data).
Chronic Toxicity:	**Skin:** Prolonged or frequent skin contact may cause dryness and peeling. **Ingestion:** After daily ingestion of 6.4 mg/Kg isopropyl alcohol for 6 weeks, the blood and urine show no special changes in the chemical or cellular composition. 3500 ppm/7H Female rats pregnant for 1-19 days ingestion) causes incomplete development of the embryo. Cannot be determined as carcinogenic in humans. (Isopropyl Alcohol Data).
Eye Irritant:	Concentration of below 400 ppm will cause light irritation. Direct contact of liquid with the eyes will cause acute irritation.
Ingestion:	May cause dizziness, stomach-ache, painful cramps, nausea, vomiting and diarrhoea. Exposure to large amount will cause unconsciousness and death. Estimated fatal dosage is approximately 131g.Chronic after daily ingestion of 6.4 mg/Kg Isopropyl Alcohol for 6 weeks, the blood and urine show no special changes in the chemical or cellular compositions. 3500 ppm/7H (Female rats pregnant for 1-19 days ingestion) causes incomplete development of the embryo. (Isopropyl Alcohol Data).
Inhalation:	Concentration of below 400 ppm will cause light irritation of the upper respiratory tract. High concentration will cause dizziness, loss of motor functions (loss of coordination) and deep coma.
Skin Irritant:	Short period of exposure will not irritate skin.

Chronic: Prolonged or frequent skin contact may cause dryness and peeling. Prolonged or frequent skin contact may cause dryness and peeling.

Carcinogen Category: No Data Available.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Bio-concentration Factor (BCF): 0.5
LC50 (Fish): 9640 mg/l/96h.
EC50 (Bacterial): Photo-bacterium 22000 mg/l/15h.
EC50 (Daphnia): Daphnia magna 13299 mg/l/48h.
IC50 (Alga): > 1000 mg/l/72h.
(Isopropyl Alcohol Data).

Persistence/Degradability: Results from 4 experiments showed that after 5 days (20) in the sewage, Isopropyl Alcohol can decompose 58% of the BOD theoretical value. When released into water, it is expected to evaporate (estimated half-life is 5.4 days) and can be biodegraded (although it decomposed quickly in the laboratory but there is no relevant data in natural water sources). When released into the air, it is expected to undergo photolysis (half-life is 1 to several days). Since it is water-soluble, it may be washed down by the rain. (Isopropyl Alcohol Data).

Mobility: When released into the soil, its high vapour pressure, faced with low adsorption from the soil, will cause it to evaporate quickly and seep into the ground.

Environmental Fate: **DO NOT** let product reach drains, sewers or waterways.

Bioaccumulation Potential: Will not accumulate inside the body.

Environmental Impact: No Data Available.

13. DISPOSAL CONSIDERATIONS

General Information: Dispose of in accordance with all Local, State and Federal Regulations. All empty packaging should be disposed of in accordance with Local, State and Federal Regulations or recycled/reconditioned at an approved facility. If small amounts flow into drainage or gutters, wash with large amounts of water to prevent the accumulation of flammable gases. For large amounts report to the environmental protection unit.

Special Precautions for Land Fill: Contact a specialist disposal company or the local waste regulator for advice.

14. TRANSPORT INFORMATION

National Transport Commission (Australia)
"Australian Code for the Transport of Dangerous Goods by Road & Rail" (ADG CODE)
Dangerous Goods Classification:

Dangerous Goods according to the criteria of the *"Australian Code for the Transport of Dangerous Goods by Road & Rail"* (ADG Code).

Land Transport: (Australia)

Shipping Name: ISOPROPANOL (ISOPROPYL ALCOHOL)

Class: 3 – Flammable Liquids.

Subsidiary Risk: No Data Available.

UN Number: 1219.

Hazchem Number: • 2YE.

Pack Group: II.

Special Provision: No Data Available.

EPG: 16 Liquids – Highly Flammable, Toxic.

15. REGULATORY INFORMATION

General Information: No Data Available

Poison Schedule (Aust): No Data Available

National Inventories: Listed on the "*Australian Inventory of Chemical Substances*" (AICS).

16. OTHER INFORMATION

Report Status: *The information contained in this Safety Data Sheet is based on data that we believe to be reliable and has been prepared in good faith, but without guarantee, as conditions and methods of use of our products are beyond our control.*
Each user should read this Safety Data Sheet and consider the information in the context of how the product will be handled and used in the workplace including the use of the product in conjunction with other products.

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