

MATERIAL SAFETY DATA SHEET



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incorporating
Citro-Clean Products & Chemlube
(Registered Business Names of Chem Pack Pty Ltd)



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Dry Air Blanket Aerosol Spray

This product is classed as a Dangerous Goods according to criteria of NOHSC.
This product is classified as a Dangerous Goods for transport by road and rail.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

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Substance: Chemlube Dry Air Blanket 400g Aerosol Spray
Product name: Dry Air Blanket Aerosol Spray
Product Use: Dry Air Blanket
Creation Date: 05 April 2004

2. COMPOSITION/INFORMATION ON INGREDIENTS

Recommended Use: For protecting urethanes and resin concentrates from the detrimental effects of moisture and air.
Appearance: Colourless, slight odour

Chemical Entity	CAS NO.	Proportion (% weight/weight)
Propane Butane Blend	68475-59-2	100%

3. HAZARDS IDENTIFICATION

A. EMERGENCY OVERVIEW:

Physical Appearance and Odor:

Colourless liquid with Chloroform odour

Warning statements:

Based on available information, classified as hazardous according to health criteria of NOHSC Australia.

B. POTENTIAL HEALTH EFFECTS:

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Eye: The gas is non-irritating to the eyes. Vaporising liquid causes rapid cooling and contact may cause cold burns, frostbite.

Skin: Vaporising liquid causes rapid cooling and contact may cause cold burns, frostbite. Frozen tissues are painless and appear waxy and pale yellow.

Inhalation: Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. Vapour is heavier than air and may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure. Symptoms of asphyxia (suffocation) may include headache, dizziness, shortness of breath, muscular weakness, drowsiness and ringing in the ears. If the asphyxia is allowed to progress, there may be nausea and vomiting, further physical weakness and unconsciousness and, finally convulsions, coma and death. Significant concentrations of the non-toxic gas reduce the oxygen level in the air. As the amount of oxygen is reduced from 21 to 14 volume%, the pulse rate accelerates and the rate and volume of breathing increase. The ability to maintain attention and think clearly is diminished and muscular coordination is somewhat disturbed. As oxygen decreases from 14-10% judgement becomes faulty; severe injuries may cause no pain. Muscular exertion leads to rapid fatigue. Further reduction to 6% may produce nausea and vomiting and the ability to move may be lost. Permanent brain damage may result even after resuscitation at exposures to this lower oxygen level. Below 6% breathing is in gasps and convulsions may occur. Inhalation of a mixture containing no oxygen may result in unconsciousness from the first breath and death will follow in a few minutes.

Hydrocarbons may sensitise the heart to adrenalin and other circulatory catecholamines; as a result cardiac arrhythmias and ventricular fibrillation may occur. Abrupt collapse may produce traumatic injury. Central nervous system (CNS) depression may be evident early. Symptoms of moderate poisoning may include giddiness, headache, dizziness and nausea. Serious poisonings may result in respiratory depression and may be fatal.

The paraffin gases C1-4 are practically non-toxic below their lower flammability limits (18000-50000 ppm). Above this level, incidental effects include CNS depression and irritation but these are reversible upon cessation of the exposure. The C3 and iso-C5 hydrocarbons show increasing narcotic properties; branching of the chain also enhances the effect. The C4 hydrocarbons appear to be more highly neurotoxic than the C3 and C5 members. Several fatalities due to voluntary inhalation of butane have been reported, possibly due to central, respiratory and circulatory effects resulting from anaesthesia, laryngeal oedema, chemical pneumonia or the combined effects of cardiac toxicity and increased sympathomimetic effects.

Inhalation of petroleum gases may produce narcosis, due in part to olefinic impurities. Displacement of oxygen in the air may cyanosis. If present in sufficient quantity these gases may reduce the oxygen level to below 18% producing asphyxiation. Symptoms include rapid respiration, mental dullness, lack of coordination, poor judgement, nausea and vomiting. The onset of cyanosis may lead to unconsciousness and death.

Ingestion: Considered an unlikely route of entry in commercial/industrial environments.

Chronic Effects: Principal routes of exposure are usually by inhalation of vapour and skin contact/eye contact.

Repeated or prolonged exposure to mixed hydrocarbons may produce narcosis with dizziness, weakness, irritability, concentration and/or memory loss, tremor in the fingers and tongue, vertigo, olfactory disorders, constriction of visual field, paraesthesias of the extremities, weight loss and anaemia and degenerative changes in the liver and kidney. Chronic exposure by petroleum workers, to the lighter hydrocarbons, has been associated with visual disturbances, damage to the central nervous system, peripheral neuropathies (including numbness and paraesthesias), psychological and neurophysiological deficits, bone marrow toxicities (including hypoplasia possibly due to benzene) and hepatic and renal involvement. Chronic dermal exposure to petroleum hydrocarbons may result in defatting which produces localized dermatoses. Surface cracking and erosion may also increase susceptibility to infection by microorganisms. One epidemiological study of petroleum refinery workers has reported elevations in standard mortality ratios for skin cancer along with a dose-response relationship indicating an association between

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routine workplace exposure to petroleum or one of its constituents and skin cancer, particularly melanoma. Other studies have been unable to confirm this finding.

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail.

4. FIRST AID MEASURES

- Ingestion:** Not applicable
- Eye contact:** Flush immediately with running water for at least 15 minutes. 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 immediate medical assistance.
- Skin contact:** In case of cold burns (frost bite): Bathe the affected area immediately in cold water for 10 to 15 minutes, immersing if possible and without rubbing. DO NOT apply hot water or radiant heat. Apply a clean, dry dressing. Transport to hospital, or doctor.
- Inhalation:** If fumes or combustion products are inhaled: Remove to fresh air. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway; should be removed, where possible, prior to initiating first aid procedures. If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor.

Notes to physician: Treat symptomatically. For frostbite from liquefied petroleum gas Shell Australia (22/12/87), recommends the following: If part has not thawed, place in warm water bath (41 - 46°C) for 15 – 60 minutes, until the skin turns pink or red. Analgesia will be necessary while thawing. If there has been massive exposure, the general body temperature must be depressed, and the patient must be immediately rewarmed, by whole-body immersion in a bath at the above temperature. Shock may occur during rewarming. Administer tetanus toxoid booster after hospitalization. Prophylactic antibiotics useful. May require anticoagulants and oxygen.

5. FIRE-FIGHTING MEASURES

- Flash Point:** -81°C
- Flammability Limits: (% Vol):** Lower 1.5, Upper 10

Suitable extinguishing media: Use carbon dioxide, dry chemical powder, water spray or fog.

Hazards from combustion products: Flammable gas. Dangerous hazard when exposed to heat or flame. Severe vapour explosion hazard, when exposed to flame or spark. Gas may form explosive mixtures with air over a wide area. Emits toxic fumes of carbon monoxide (CO) on combustion. Other combustion products include, carbon dioxide (CO₂)

Precautions for Firefighters and Special Protective Equipment

In case of fire, use Self Contained Breathing Apparatus and full body protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Cleanup and Disposal of Spill: Avoid breathing vapour and any contact with liquid or gas. Protective equipment including respirator should be used. DO NOT enter confined spaces where gas may have accumulated. Shut off all sources of possible ignition and increase ventilation. Clear area of personnel. Stop leak only if safe to do so. Remove leaking cylinders to safe place. Release pressure under safe controlled conditions by opening valve. Keep area clear of personnel until gas has dispersed. If cylinder is leaking, consider removal to well ventilated area remote from ignition sources. Orient cylinder so that the leak is gas, not liquid, to minimize rate of leakage.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Do not use near ignition sources, sparks, or flames.

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Precautions for Safe Storage: Store in a cool dry, well ventilated area in an upright position. Avoid storage at temperatures higher than 40°C. Store away from oxidizing materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits

TLV TWA: 1000 ppm, 1800 mg/m³ (as LPG)

TWA: 1000 ppm, 1800 mg/m³ (as LPG)

OES TWA: 1000 ppm, 1750 mg/m³; STEL: 1250 ppm, 2180 mg/m³ (as LPG)

IDLH Level: 2000 ppm (Lower explosive limit)

No chronic systemic effects have been reported from occupational exposure to LPG. The TLV-TWA is based on good hygiene practices and is thought to minimize the risk of fire or explosion.

Engineering measures: Use in a well ventilated area. In confined spaces, the following protective equipment should be worn: Air supplied breathing apparatus.

Personal protection equipment: Use Safety glasses with side shields, Chemical protective gloves and footwear.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form / Colour / Odour: Colourless, slight odour.

Specific Gravity:	0.5-0.6	Melting Point (°C):	-188
Rel. Vapour Density (air=1):	N Av	Boiling Point (°C):	-0.5 to -42.1
Vapour Pressure (kPa):	1050	Decomp. Point (°C):	N Av
Sublimation Point:	N App	pH (1% aqueous soln):	N Av
Autoignition Temp (°C):	N Av	Viscosity (20°C):	N Av
% Volatile by volume:	100%	Evaporation Rate:	N Av
Solubility in water:	>2%		

(Typical values only - consult specification sheet)

N Av = Not available N App = Not applicable

10. STABILITY AND REACTIVITY

Stability: Stable under anticipated conditions of storage and handling.

Conditions to Avoid: Vapour/air mixtures with source of ignition

Incompatible materials: Strong oxidising agents, bases and combustible materials.

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label.

12. ECOLOGICAL INFORMATION

Ecotoxicity: No Data.

13. DISPOSAL CONSIDERATIONS

Ensure damaged cylinders are gas-free before disposal

14. TRANSPORT INFORMATION

UN Number	1950
Class	2
Packing Group	II

Road and Rail Transport

Classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail.

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Marine Transport

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

Air Transport

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

15. REGULATORY INFORMATION

Based on available information, classified as dangerous goods according to health criteria of NOHSC Australia.

Poisons Schedule (Aust)/Toxic Substance (NZ): None Allocated

16. OTHER INFORMATION

Any advice, recommendation, information, assistance or service provided by Chem Pack Pty Ltd in relation to the goods supplied by it or their use or application is given in good faith and believed to be appropriate and reliable. However, it is provided with a disclaimer for any liability or responsibility on the part of Chem Pack Pty Ltd. The customer accepts all risk and responsibility for use of the goods alone, or in combination with other products. All warranties, guarantees and conditions, other than those expressly stated, and when implied by statute, common law, custom of the trade or otherwise, are to the extent that the law permits, expressly excluded.