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## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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**PRODUCT NAME**

POWERS NAILING-GAS FUEL CELL 80ML, TRAK-IT 700-GAS 40ML

**PROPER SHIPPING NAME**

HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.(contains propylene and 1-butene)

**PRODUCT USE**

Fuel cell cartridge for use in Powers C4 Trak-It nailing tool (80ml can only).

**SUPPLIER**

Company: Powers Fasteners Australasia Pty Ltd

Address:

Factory 3, 205 Abbots Road

Dandenong South

VIC, 3175

Australia

Telephone: +61 3 8795 4600

Fax: +61 3 8787 5899

Address:

229 Bush Road

Albany

Auckland, 0632

New Zealand

Telephone: +64 9415 2425

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## Section 2 - HAZARDS IDENTIFICATION

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**STATEMENT OF HAZARDOUS NATURE****DANGEROUS GOODS. NON-HAZARDOUS SUBSTANCE. According to NOHSC Criteria, and ADG Code.****RISK**

- Extremely flammable.
- Risk of explosion if heated under confinement.

**SAFETY**

- Keep away from sources of ignition. No smoking.
- Do not breathe gas/fumes/vapour/spray.
- Avoid contact with skin.
- Use only in well ventilated areas.
- Keep container in a well ventilated place.
- Keep container tightly closed.
- This material and its container must be disposed of as hazardous waste.

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## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

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NAME	CAS RN	%
propylene	115-07-1	40-70
1- butene	106-98-9	30-60

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## Section 4 - FIRST AID MEASURES

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**SWALLOWED**

- Avoid giving milk or oils.
- Avoid giving alcohol.
- Not considered a normal route of entry.

**EYE**

- If product comes in contact with eyes remove the patient from gas source or contaminated area.
- Take the patient to the nearest eye wash, shower or other source of clean water.
- Open the eyelid(s) wide to allow the material to evaporate.
- Gently rinse the affected eye(s) with clean, cool water for at least 15 minutes. Have the patient lie or sit down and tilt the head back. Hold the eyelid(s) open and pour water slowly over the eyeball(s) at the inner corners, letting the water run out of the outer corners.

**SKIN**

- If skin or hair contact occurs:
  - Flush skin and hair with running water (and soap if available).
  - Seek medical attention in event of irritation.

**INHALED**

- Following exposure to gas, remove the patient from the gas source or contaminated area.
- NOTE: Personal Protective Equipment (PPE), including positive pressure self-contained breathing apparatus may be required to assure the safety of the rescuer.

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- Prostheses such as false teeth, which may block the airway, should be removed, where possible, prior to initiating first aid procedures.
- If the patient is not breathing spontaneously, administer rescue breathing.

**NOTES TO PHYSICIAN**

- For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:
  - Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
  - Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO<sub>2</sub> 50 mm Hg) should be intubated.
  - Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
  - A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- for gas exposures:

**BASIC TREATMENT**

- Establish a patent airway with suction where necessary.
- Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- Monitor and treat, where necessary, for pulmonary oedema .

**Section 5 - FIRE FIGHTING MEASURES****EXTINGUISHING MEDIA**

- DO NOT EXTINGUISH BURNING GAS UNLESS LEAK CAN BE STOPPED SAFELY: OTHERWISE: LEAVE GAS TO BURN.

**FOR SMALL FIRE:**

- Dry chemical, CO<sub>2</sub> or water spray to extinguish gas (only if absolutely necessary and safe to do so).
- DO NOT use water jets.

**FOR LARGE FIRE:**

- Cool cylinder by direct flooding quantities of water onto upper surface until well after fire is out.
- DO NOT direct water at source of leak or venting safety devices as icing may occur.

**FIRE FIGHTING****GENERAL**

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- Consider evacuation.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 1500 metres in all directions.

**FIRE/EXPLOSION HAZARD**

- HIGHLY FLAMMABLE: will be easily ignited by heat, sparks or flames.
  - Will form explosive mixtures with air
  - Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/ or vapour concentration.
  - Vapours may travel to source of ignition and flash back.
- Combustion products include: carbon monoxide (CO), carbon dioxide (CO<sub>2</sub>), other pyrolysis products typical of burning organic material. Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

**FIRE INCOMPATIBILITY**

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

**HAZCHEM**

2YE

**Personal Protective Equipment**

Breathing apparatus.

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set 30 mins.

**Section 6 - ACCIDENTAL RELEASE MEASURES****MINOR SPILLS**

- 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.

**MAJOR SPILLS**

- Clear area of all unprotected personnel and move upwind.
- Alert Emergency Authority and advise them of the location and nature of hazard.
- May be violently or explosively reactive.

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- Wear full body clothing with breathing apparatus.
- Remove leaking cylinders to a safe place.
- Fit vent pipes. Release pressure under safe, controlled conditions
- Burn issuing gas at vent pipes.
- DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

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## Section 7 - HANDLING AND STORAGE

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### PROCEDURE FOR HANDLING

- Consider use in closed pressurised systems, fitted with temperature, pressure and safety relief valves which are vented for safe dispersal.
- Consider the use of doubly-contained piping; diaphragm or bellows sealed, soft seat valves; backflow prevention devices; flash arrestors; and flow monitoring or limiting devices. Gas cabinets, with appropriate exhaust treatment, are recommended, as is automatic monitoring of the secondary enclosures and work areas for release.
- Use a pressure reducing regulator when connecting cylinder to lower pressure (<100 psig) piping or systems
- Use a check valve or trap in the discharge line to prevent hazardous back-flow into the cylinder.

### SUITABLE CONTAINER

- Cylinder:
- Ensure the use of equipment rated for cylinder pressure.
- Ensure the use of compatible materials of construction.
- Valve protection cap to be in place until cylinder is secured, connected.

### STORAGE INCOMPATIBILITY

- 1-Butene:
  - reacts violently with strong oxidisers
  - is able to form unstable peroxides; may polymerise
  - is incompatible with organic and inorganic acids, halogens and their compounds, polymerisable esters, oxygen, cyanohydrin, aluminium borohydride, oxides of nitrogen, molten sulfur
  - may accumulate static charge which may ignite vapours.
- Propylene:
  - is able to form unstable peroxides that may cause polymerisation
  - reacts violently with strong oxidisers, trifluoromethyl hypofluorite, fluorine, chlorine and many other compounds
  - is incompatible with ammonium hydroxide
  - forms explosive mixtures with nitrogen oxide compounds.

### STORAGE REQUIREMENTS

- Store in an upright position.
- Outside or detached storage is preferred.
- Cylinders should be stored in a purpose-built compound with good ventilation, preferably in the open.
- Such compounds should be sited and built in accordance with statutory requirements.
- The storage compound should be kept clear and access restricted to authorised personnel only.
- Cylinders stored in the open should be protected against rust and extremes of weather.

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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### EXPOSURE CONTROLS

The following materials had no OELs on our records

- 1- butene:

CAS:106- 98- 9 CAS:25167- 67- 3

### PERSONAL PROTECTION

#### RESPIRATOR

Type AX Filter of sufficient capacity

#### EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

#### HANDS/FEET

- When handling sealed and suitably insulated cylinders wear cloth or leather gloves.

#### OTHER

- The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.
- Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

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BRETHERRICK: Handbook of Reactive Chemical Hazards.

- Protective overalls, closely fitted at neck and wrist.
- Eye-wash unit.

IN CONFINED SPACES:

- Non-sparking protective boots
- Static-free clothing.
- Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.
- For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets), non sparking safety footwear.

#### ENGINEERING CONTROLS

- Areas where cylinders are stored require good ventilation and, if enclosed need discrete/ controlled exhaust ventilation.
- Vented gas is flammable, may be denser than air and will spread. Vent path must not contain ignition sources, pilot lights, naked flames.
- Secondary containment and exhaust gas treatment may be required by certain jurisdictions.
- Local exhaust ventilation (explosion proof) is usually required in workplaces.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

#### APPEARANCE

Colourless liquefied gas with a mild olefinic odour; does not mix with water.

#### PHYSICAL PROPERTIES

Gas.

Does not mix with water.

Floats on water.

State	Liquefied Gas	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Immiscible
Flash Point (°C)	- 108	pH (1% solution)	Not Applicable
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not Applicable
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	~96 psig @ 21C
Upper Explosive Limit (%)	11.1	Specific Gravity (water=1)	0.5541
Lower Explosive Limit (%)	1.6	Relative Vapour Density (air=1)	>1.5 (%wt)
Volatile Component (%vol)	100 (%wt)	Evaporation Rate	Not Available

propylene

■ log Kow (Prager 1995): 1.77

1- butene

log Kow (Sangster 1997): 2.4

## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

#### CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.
- Presence of heat source.
- Presence of an ignition source.

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

#### POTENTIAL HEALTH EFFECTS

##### ACUTE HEALTH EFFECTS

- Vapours may cause dizziness or suffocation.

##### CHRONIC HEALTH EFFECTS

- Not applicable.

#### TOXICITY AND IRRITATION

- Not available. Refer to individual constituents.

1-BUTENE:

PROPYLENE:

- No significant acute toxicological data identified in literature search.

PROPYLENE:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

- The substance is classified by IARC as Group 3:  
NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

**CARCINOGEN**

Propylene	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	3
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**Section 12 - ECOLOGICAL INFORMATION**

This material and its container must be disposed of as hazardous waste.

**Ecotoxicity**

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
propylene	LOW	LOW	LOW	
1- butene	LOW		LOW	HIGH

**Section 13 - DISPOSAL CONSIDERATIONS**

- Evaporate or incinerate residue at an approved site.
- Return empty containers to supplier.
- Ensure damaged or non-returnable cylinders are gas-free before disposal.

**Section 14 - TRANSPORTATION INFORMATION**



Labels Required: FLAMMABLE GAS

**HAZCHEM:**

2YE (ADG7)

**ADG7:**

Class or division:	2.1	Subsidiary risk:	None
UN No.:	1965	UN packing group:	None
Special provisions:	274	Packing Instructions:	None
Limited quantities:	0	Portable tanks and bulk containers - Instructions:	T50

Portable tanks and bulk containers - Special provisions:	None	Packagings and IBCs - Packing instruction:	P200
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Packagings and IBCs - Special packing provisions: None

Shipping Name:HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.(contains propylene and 1-butene)

**Land Transport UNDG:**

Class or division:	2.1	Subsidiary risk:	None
UN No.:	1965	UN packing group:	None
Shipping Name:HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.(contains propylene and 1-butene)			

**Air Transport IATA:**

ICAO/IATA Class:	2.1	ICAO/IATA Subrisk:	None
UN/ID Number:	1965	Packing Group:	-
Special provisions:	A1		
Cargo Only			
Packing Instructions: Passenger and Cargo	200	Maximum Qty/Pack: Passenger and Cargo	150 kg
Packing Instructions: Passenger and Cargo Limited Quantity	Forbidden	Maximum Qty/Pack: Passenger and Cargo Limited Quantity	Forbidden
Packing Instructions:	-	Maximum Qty/Pack:	-

Shipping Name: HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. \* †(CONTAINS PROPYLENE AND 1-BUTENE)

POWERS NAILING-GAS FUEL CELL 80ML, TRAK-IT 700-GAS 40ML

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Section 14 - TRANSPORTATION INFORMATION

**Maritime Transport IMDG:**

IMDG Class:	2.1	IMDG Subrisk:	None
UN Number:	1965	Packing Group:	None
EMS Number:	F- D , S- U	Special provisions:	274
Limited Quantities:	0		

Shipping Name: HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S.(contains propylene and 1-butene)

**Section 15 - REGULATORY INFORMATION**

POISONS SCHEDULE None

**REGULATIONS**

Regulations for ingredients

**propylene (CAS: 115-07-1) is found on the following regulatory lists;**

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

**1-butene (CAS: 106-98-9,25167-67-3) is found on the following regulatory lists;**

"Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

**No data for POWERS NAILING-GAS FUEL CELL 80ML, TRAK-IT 700-GAS 40ML (CW: 24-4032)**

**Section 16 - OTHER INFORMATION**

**INGREDIENTS WITH MULTIPLE CAS NUMBERS**

Ingredient Name	CAS
1- butene	106- 98- 9, 25167- 67- 3

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references).

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

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*This is the end of the MSDS.*