

Safety Data Sheet for TIL-R Fuel Cells
As per European Commission Standard: EEC Regulation 91/155/EEC

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

1.1. Identification of the substance or preparation

Aerosols, Flammable and Class 2.1

1.2. Use of the substance / preparation

To activate cordless nail gun, bradder & concrete gun / propane and butane liquefied

2. COMPOSITION / INFORMATION ON INGREDIENTS

2.1. Liquefied petroleum gases comprising various mixes of hydrocarbons

3. HAZARDS IDENTIFICATION

3.1 Dangerous Goods: Non-hazardous substance

3.2 Risk: Explosive nature if heated in confinement & extremely flammable

3.3 Hazardous Ingredients: Propane and butane mix

4. FIRST AID MEASURES

4.1 Inhalation: Do not breath the gas, may cause asphyxiation in high concentrations or toxic effect. Supply patient with fresh air & consult doctor.

4.2 Skin: Direct Contact with liquefied gas can cause frostbite

- Wash exposed area with cold water for at least for 10 minutes, don't rub area, just flush with water or soak
- Do not use hot water.
- Dress with a clean & dry dressing
- Take patient to nearest hospital or doctor

4.2 Eyes: Direct contact with liquefied gas can cause frostbite

- Open eyelids to allow any gas / fluid to escape
- Flush out effected eye with cool water for 15 minutes
- Don't allow patient to rub the eyes
- If sensitive to light gently apply bandage

4.3 Ingestion: Direct contact with liquefied gas can cause frostbite to internal organs & tissue.

- Do not induce vomiting
- Provide clean, cool drinking water for patient to rinse their mouth & then advise patient to drink water, if comfortable for them

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media: Carbon dioxide, water spray

5.2 Others:

- Isolate hazard area & evacuate unprotected personnel
- Full emergency equipment with self-contained breathing apparatus & full protective clothing should be worn by fire fighters
- Prevent spillage from entering drains or waterways
- Don't approach heated aerosols until cooled
- Remove aerosols from path of fire if safe to do so

5.3 Fire / Explosive Hazard: Extremely flammable

- Will form explosive mixture with air
- Flash back may occur if vapour travels to an ignition point
- Aerosols may explode when ruptured
- Exposure to gas may cause frostbite, burns or injury
- Explosion hazard if exposed to flame or spark

5.4 Hazchem: 2 WE

5.5 Personal Protective Equipment: Breathing apparatus & gas tight chemical resistant suit

6. ACCIDENTAL RELEASE MEASURES

6.1 Minor Spills:

- Shut off all sources of ignition
- Clear area of all personnel
- Do not enter area where gas may have accumulated
- Avoid breathing gas & any contact with liquid
- Enter the area with protective equipment with breathing apparatus
- Remove leaking aerosols to a safe well-ventilated area
- Do not enter the area until gas has been dispersed

6.2 Major Spills:

- All unprotected personnel must be cleared from the area
- Alert emergency service of the incident & location
- Enter area with protective equipment & respirator
- Turn off all the possible sources of ignition
- Use water spray to disperse vapour
- Keep clear until gas has dispersed fully & stop entry of unauthorized personnel

7. HANDLING AND STORAGE

7.1. Handling: Aerosols need to be handled with care to avoid puncture, don't puncture even if empty.

7.2 Storage:

- Store in a well ventilated area
- Recommended storage temperature below 50°C
- No smoking, naked flame, heat or ignition sources
- Do not store in pits or depressions or where no air circulation occurs

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Exposure limit values: Threshold limit value (TLV) – 1000ppm (1800mg/m³)

8.2. Exposure controls

Eye Protection: Eye protection must be worn when handling aerosols

Skin Protection: Gloves are recommended when handling aerosols

8.2.1 Respiratory / Ventilation protection

- In worst case scenario a respiratory protection device may be required
- Under normal use aerosols should be used in well-ventilated area
- If ventilation is insufficient a suitable breathing protection should be worn

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information

Appearance	Liquefied Gas
Colour	Colourless
Odour	Odourless
Boiling Point	- 42°C to 0°C approximately
Flash Point	- 104°C to - 60°C approximately
Freeze Point	- 184.5°C approximately
Specific Gravity	0.54 kgs/ltr in liquid form approximately
Vapour Pressure	6.9 Bar at 21.2°C approximately
Vapour Density	Approximately 1.5 (air=1)
Auto Ignition Temperature	494°C approximately
Flammability Limits	1.5 % to 9.6 % in air (v/v)
Solubility in Water	Slightly

10. STABILITY AND REACTIVITY

10.1 Stability: Product is stable in normal working conditions

10.2 Hazardous Polymerization: will not occur

10.3 Incompatibilities: Oxidizing agents, halogens & acids

10.4 Decomposition: Burning may produce carbon monoxide or carbon dioxide

11. TOXICOLOGICAL INFORMATION

Eye: Frostbite can result from exposure to liquid while gas may cause irritation

Skin: Contact with the skin may cause frostbites

Inhaled: Asphyxiation may occur if personnel exposed to high concentration of gas.

Early indications of asphyxiation are drowsiness, headaches, dizziness and a feeling of weakness and shortness of breath.

12. ECOLOGICAL INFORMATION

Will vaporize rapidly when released into the atmosphere. Anaesthetic to animals & insects at high concentration, Not expected to pose hazards to aquatic life. Not inhibitory to plant growth at normal concentration. Bioaccumulation is not expected

13. DISPOSAL CONSIDERATIONS

Waste disposal should be undertaken in one of the following ways:

- Return empty aerosol to supplier
- Dispose of empty aerosols once these are free of gas, however seek guidance of local bodies if any rules & regulations need to be followed

14. TRANSPORT INFORMATION

Class 2 - Extremely Flammable - Propane/Butane liquefied

UN 3478

Required Labels: Flammable Gas

Hazchem: 2 WE

15. REGULATORY INFORMATION

- Read safety instructions before use
- Aerosol is under pressure
- Keep away from temperatures above 50 C
- Use only outside or well-ventilated area
- Throw away at designated area as specified by local bodies
- Keep out of reach of children
- Do not damage, puncture or burn even after use
- Do keep these aerosols in well-ventilated area
- Do not breathe gas

Above all follow the rules & regulations of the local/county laws for usage & disposal.

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