

WORKSHEET:

Is your Stationary Refrigeration/Air Conditioning Worksite Gas Safe?

Do you USE or STORE any of the following gases at your worksite?

LPG

In cylinders < 13 kg	In cylinders > 13 kg	In bulk storage bullet	Reticulated thru work areas
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Highly FLAMMABLE

Refer to manufacturer's Safety Data Sheet and:

- AS/NZS 1596 The storage and handling of LP Gas
- AS/NZS 60079.14 Explosive atmospheres Design selection, erection and initial inspection

Safety precautions:

- Use with approved appliance ONLY
- Hoses in good condition
- Valves, regulators and fittings in good condition
- Ensure adequate ventilation available when using appliances
- Disconnect portable appliances when not in use
- Consider hazardous areas when reticulated and around bulk storage

Acetylene

In cylinders > 'G' size	In manifold packs	Reticulated through work areas
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Highly FLAMMABLE – Refer manufacturer's Safety Data Sheet

Safety precautions:

- Hoses in good condition
- Torches, fittings and valves in good condition
- Ensure cylinder valves are turned off when not in use
- Manifold packs may require consideration of hazardous areas if quantity exceeds 30 m³ (6 x G size)
- No electrical outlets within 2 m of oxy-acetylene outlets
- Use only approved torches and tools
- Do not use near refrigerants

Refrigerants

Refer to:

- AS/NZS ISO 817: Refrigerants—Designation and safety classification
- AS/NZS 5149: Refrigerating systems and heat pumps—Safety and environmental requirements,
 - AS/NZS 5149.1: Part 1: Definitions, classification and selection criteria
 - AS/NZS 5149.2: Part 2: Design, construction, testing, marking and documentation
 - AS/NZS 5149.3: Part 3: Installation site
 - AS/NZS 5149.4: Part 4: Operation, maintenance, repair and recovery
- AS/NZS 3000: Electrical installations (known as the Australian/New Zealand Wiring Rules)
- AS/NZS 60079.14: Explosive atmospheres Design selection, erection and initial inspection
- AS/NZS 60335.2.40: Household and similar electrical appliances – Safety
 - Part 2.40 Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers
- AIRAH Flammable Refrigerants Safety Guide

Class A3 Higher Flammability and Lower Toxicity			
R290 (propane)	R600 (butane)	R600a (isobutane)	Other
<p>Highly FLAMMABLE – Refer manufacturer’s Safety Data Sheet</p> <p>Safety precautions:</p> <ul style="list-style-type: none"> “ Do not breathe in refrigerant “ Set up a temporary flammable zone with appropriate signage and ready access to suitable fire extinguisher “ Isolate ignition sources within 3 m of work areas “ Ensure adequate ventilation available “ Refrigerant must be stored securely with appropriate signage “ Wear protective gloves/protective clothing/eye protection “ Fittings and valves in good condition “ Service equipment and tools must be rated for use with A3 refrigerant, e.g. vacuum pumps, recovery unit, cylinders, leak detectors “ NSW, QLD & VIC - Suitable only for appliances certified by Technical Regulator “ Trained personnel only to work on systems containing this refrigerant “ Technician in Qld must hold Gas Work Licence issued by Technical Regulator to carry out work on systems containing these refrigerants “ Use of Personal Gas Monitors while handling recommended to comply with WHS legislation “ Risk assessment recommended for ALL work activities associated with these refrigerants 			

Class B2/B2L Flammable/Lower Flammability and Higher Toxicity			
R717 Ammonia	Other	“	“
<p>HIGHLY TOXIC and FLAMMABLE under certain conditions – refer manufacturer’s Safety Data Sheet</p> <p>Safety precautions:</p> <ul style="list-style-type: none"> “ Do not breathe in refrigerant, it is toxic “ Set up a temporary flammable zone with appropriate signage and ready access to suitable fire extinguisher “ Isolate ignition sources within 1.1 m of work areas “ Ensure adequate ventilation available “ Refrigerant must be stored securely with appropriate signage “ Wear protective gloves/protective clothing/eye protection/face protection. “ Fittings and valves in good condition “ Trained personnel only to work on systems containing this refrigerant “ Use of Personal Gas Monitors while handling recommended to comply with WHS legislation “ Risk assessment recommended for ALL work activities associated with these refrigerants 			

Class A2/A2L Flammable/Lower Flammability and Lower Toxicity			
R1234yf	R1234ze	R32	Other
<p>FLAMMABLE under certain conditions – refer manufacturer’s Safety Data Sheet</p> <p>Not hazardous when used with approved handling equipment.</p> <p>Safety precautions:</p> <ul style="list-style-type: none"> “ Do not breathe in refrigerant “ Set up a temporary flammable zone with appropriate signage and ready access to suitable fire extinguisher “ Isolate ignition sources within 1.1 m of work area “ Ensure adequate ventilation available “ R32 must not be vented to atmosphere 			

- Refrigerant must be stored securely with appropriate signage
- Wear protective gloves/protective clothing/eye protection
- Fittings and valves in good condition
- Service equipment must be rated for use with A2/A2L or A3 refrigerant, e.g. vacuum pumps, recovery unit and cylinders, leak detectors, etc.
- R32 Cylinders must be leak tested every three months and leaking cylinders must be returned to the supplier.
- Trained personnel only to work on systems containing this refrigerant
- Use of Personal Gas Monitors while handling recommended to comply with WHS legislation
- Risk assessment recommended for ALL work activities associated with these refrigerants

Class B1 Non-Flammable and Higher Toxicity			
R123	R245fa	Other	•
HIGHLY TOXIC and NON-FLAMMABLE – refer manufacturer’s Safety Data Sheet			
Safety precautions:			
• Do not breathe in refrigerant.			
• Ensure adequate ventilation available			
• Refrigerant must not be vented to atmosphere			
• Refrigerant must be stored securely with appropriate signage			
• Wear protective gloves/protective clothing/eye protection/face protection.			
• Fittings and valves in good condition			
• Cylinders must be leak tested every three months and leaking cylinders must be returned to the supplier.			
• Trained personnel only to work on systems containing this refrigerant			
• Risk assessment recommended for ALL work activities associated with these refrigerants			

Class A1 Non-Flammable and Lower Toxicity			
• R22	• R134a	• R404A	• R407C
• R409A	• R410A	• R437A	• R439A
• R452A	• R502	• R508B	• R744 – CO ²
Others, please list	•	•	•
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NON-FLAMMABLE – refer manufacturer’s Safety Data Sheet			
Not hazardous when used with approved handling equipment.			
Safety precautions:			
• Do not breathe in refrigerant			
• Ensure adequate ventilation available			
• Combustion products include carbon dioxide (CO ₂) and hydrogen fluoride			
• Refrigerant, except R744, must not be vented to atmosphere			
• Refrigerant must be stored securely with appropriate signage			
• Wear protective gloves/protective clothing/eye protection			
• Fittings and valves in good condition			
• Cylinders must be leak tested every three months and leaking cylinders must be returned to the supplier.			
• Risk assessment recommended for ALL work activities associated with these refrigerants			