GUIDE 04	LIQUIFIED GASES - FLAMMABLE
HAZARDS	
Fire or explosion	• HIGHLY FLAMMABLE: will be easily ignited by heat, sparks or flames. • Will form explosive mixtures with air. • Vapours from liquefied gas are usually heavier than air. • Vapours may travel to source of ignition and flash back. • Containers may explode when heated - Ruptured cylinders may rocket. • Fire may produce irritating, poisonous and/or corrosive gases. • May decompose explosively (D) or polymerise violently (P) when heated or involved in a fire.
Health	• High concentration of gas may cause asphyxiation without warning. • Some are irritating or poisonous in high concentrations. • Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.
PROTECTIVE CLOTHING	
	• Wear SCBA and fully-encapsulating, gas-tight suit when handling leaking or damaged cylinders and equipment. • For LPG, wear SCBA and chemical splash suit. • Structural firefighters' uniform will provide limited protection. • Always wear thermal protective clothing when handling cryogenic liquids and associated equipment.
PUBLIC SAFETY	
	• **IMMEDIATELY CONTACT POLICE OR FIRE BRIGADE** • Spill or lead area should be isolated immediately for at least 100m in all directions. • Keep unauthorised personnel away. • Many gases are heavier than air and will collect in low or confirmed areas (drains, basements, tanks). • Keep upwind and to higher ground.
Evacuation **Fire**	**Large Spill** • Consider initial evacuation for at least 800m in all directions. • When any large container (including rail and road tankers) is involved in a fire, consider initial evacuation for 1500m in all directions.
EMERGENCY RESPONSE	
Fire	• **DO NOT EXTINGUISH BURNING GAS UNLESS LEAK CAN BE STOPPED.** • CUT OFF SOURCE OF GAS IF SAFE TO DO SO - IF NOT POSSIBLE, LEAVE GAS TO BURN, PROTECT EXPOSURES, COOL CONTAINEERS. • If safe to do so, move undamaged containers from fire area. • Extinguish secondary fire
Small Fire	• Use dry chemical, CO_2 or water spray to extinguish burning gas if absolutely necessary and safe to do so. • Do not use water jets.
Large Fire	• Cool container by directing flooding quantities of water onto upper surface until well after the fire is out - Do not direct water at source of leak or venting safety devices as icing may occur. • Cool container and fight secondary fire from protected position or use unmanned hose holders or monitor nozzles - When impossible, withdraw immediately from hazard area and let burn. • Withdraw immediately in case of rising sound from venting safety devices or discolouration of tank - tank may explode. • ALWAYS stand away from tank ends. • Damaged containers should only be handled following expert advice.
Spill or leak	• ELIMINATE all ignition sources (no smoking, flares, sparks or flame) within at least 200m - All equipment used when handling the product must be earthed. • Prevent spreading of vapours through drains and ventilation systems. • Ventilate the area. • Do not touch or walk through spilled material. • Stop the leak if safe to do so - If possible, turn leaking container so that gas escapes rather than liquid - Prevent entry into waterways, drains or confined areas. • Use water spray, fog or vapour-suppressing foam to knock down vapours or divert vapour clouds - Do not direct water at source of leak or venting safety devices as icing may occur. • **Caution:** When in contact with cryogenic liquids, most materials become brittle and are likely to break without warning.
First Aid	• Remove victim to fresh air - Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult. • Remove contaminated clothing and shoes immediately - Clothing frozen to the skin should be thawed before being removed - In case of frostbite, thaw in lukewarm water. • Keep victim warm and quiet • Obtain immediate medical care - Ensure that attending medical personnel are aware of the identity and nature of product(s) involved, and take precautions to protect themselves.

HYDROCARBON REFRIGERANT - UN 1075/1965. Class 2.1. 2WE.
IN TRANSIT EMERGENCY - DIAL 000.
REQUEST POLICE & FIRE BRIGADE ATTENDANCE.

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