MATERIAL SAFETY DATA OF HP GAS FLAME PLUS

SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

CHEMICAL NAME	: LIQUEFIED PETROLEUM GAS
CHEMICAL CLASSIFICATION	: HYDROCARBON MIXTURE
SYNONYMS	: LPG, PROPANE, BUTANE, PROPYLENE
TRADE NAME	: HP GAS FLAME PLUS
FORMULA	: C_3H_8, C_4H_{10} (Mixture)
C.A.S.NO.	: 68476-85-7
UN. No.	: 1075
REGULATED IDENTIFICATION	
SHIPPING NAME	: PETROLEUM GASES, LIQUEFIED
CODES/LABEL	: Flammable, Class 2
HAZARDOUS WASTE I.D. No	: 5
HAZCHEM CODE	: 2 W E
HAZARDOUS INGREDIENTS	C.A.S.NO.
1. Propane	74-98-6
2. Butane	106-97-8
3. Propylene	115-07-1

SECTION 2 – PHYSICAL AND CHEMICAL DATA

Boiling Point/Range °C	: >-40
Physical State	: Gas at 15 °C and 1 atm
Melting / Freezing Point °C	: Not Pertinent
Vapour pressure @ 35°C mm Hg	: Not available
Appearance	: Colourless
Odour	: Mercaptan added as an odouriser
Vapour Density (Air = 1)	: 1.5
Solubility in water @ 30°C	: Slight
Others	: Soluble in Organic Solvents, Alcohol
Specific Gravity (Water = 1)	: 0.51-0.58 at 50 °C
pH	: Not pertinent

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

Flammability	: Yes
LEL	: 1.9%
UEL	: 9.5%
TDG Flammability	: 2
Flash Point °C	: - 104.4
Auto ignition Temperature °C	: 466.1 Propane and 405 Butane
Explosion Sensitivity to Impact	: Not established

Explosion Sensitivity to Static Electricity	: May explode
Hazardous Combustion products	: Emits CO, CO_2
Hazardous Polymerization	: Does not occur
Combustible Liquid	: No
Explosive Material	: No
Corrosive Material	: No
Flammable Material	: Yes
Oxidiser	: No
Pyrophoric Material	: No
Organic Peroxide	: No

SECTION 4 - REACTIVITY DATA

Chemical Stability	: Stable
Incompatibility with other material	: Strong Oxidizers
Reactivity	: No reaction with common materials but may react with oxidizing materials
Hazardous Reaction Products	: Not available

SECTION 5 - HEALTH HAZARD DATA

Routes of Entry	: Inhalation, Skin
Effects of Exposure/ Symptoms	: Concentration in air greater than 10% causes dizziness in few minutes. 1% conc. gives the same symptoms in 10 mts. High concentration causes asphyxiation. Liquid on skin causes frostbite.
Emergency Treatment	: If inhaled, remove the victim to fresh air area. Provide artificial resuscitation. Skin: Remove the wetted clothes & wash the affected area with plenty of water Eyes: Flush with plenty of water for 15 mins. Seek medical aid immediately.
Permissible Exposure Limit	
L.D_{50} (Oral-Rat)	: Not listed mg/kg
Odour Threshold L.D_{50}	: 5000ppm to 20000 ppm
TLV (ACGIH)	: 1000 ppm, 1800 mg/m^3
STEL	: Not listed ppm Not listed mg/m^3

NFPA Hazard Signals	Health	Flammability	Reactivity/Stability	Special
	1	4	0	-

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SECTION 6 - PREVENTIVE MEASURES

Personal Protective equipment	: Avoid contact with liquid or gas. Provide hand gloves, safety goggles, gas mask, protective over-clothing and shoes.
Handling and Storage Precautions	: Keep in tightly closed cylinders in a cool, well ventilated area,away from heat,flame,sparks

SECTION 7 - EMERGENCY AND FIRST AID MEASURES

FIRE		
	Fire Extinguishing Media	CO_2, Dry Chemical Powder, Water Spray
	Special Procedure	Keep the containers cool by spraying water if exposed to fire or heat.
	Unusual Hazards	If not cooled sufficiently, containers will explode in fire
EXPOSURE		
	First Aid Measures	If inhaled, remove the victim to open air area & artificial resuscitation may be provided if required. If skin is affected with the liquid, remove the clothing & wash the affected area with plenty of water. Seek medical aid.
	Antidotes/Dosages	Not available
SPILLS		
	Steps to be taken	Shut off leaks if without risk. Warn everybody that air mixture is explosive
	Waste Disposal Method	Allow gas to burn under control

SECTION 8 – ADDITIONAL INFORMATION/REFERENCES

Avoid contact with oxidizers. Olefinic impurities may lead to narcotic effect or it may act as a simple asphyxiant. A very dangerous hazard when exposed to heat or flame. If fire is big, keep surrounding areas cool by spraying water.