GAIL (India) Limited
Gas & Beyond

MATERIAL SAFETY DATA SHEET

1. CHEMICAL IDENTITY		
CHEMICAL NAME : Liquefied petroleum gas		
CHEMICAL CLASSIFICATION: Mixture of butane and propane		
SYNONYMES :		
TRADE NAME: Liquefied petroleum gas		
FORMULA: Mixture of C_3H_8 & C_4H_{10}.	C.A.S. NO.	
U.N. NO: 1075	HAZCHEM CODE: 2WE	
REGULATED IDENTIFICATION : NA		
SHIPPING NAME CODES/ LABLE : Liquefied petroleum gas		
HAZARDOUS WASTE I.D. NO. : NA		
HAZARDOUS INGREDIENTS :	C.A.S. No. :	
1. Propane	106-97-8	
2. Butane	74-98-6	
3. Pentane	109-66-0	
2. PHYSICAL AND CHEMICAL DATA		
BOILING POINT (°C): >-40	PHYSICL STATE: Liquefied gas	APPEARANCE: Colorless
MELTING / FREEZING POINT(°C): N/A	VAPOUR PRESSURE @ 35 °C mm/Hg: 1311.56 mm hg @-20 Dg F	Odor: Odorless Gas.
VAPOUR DENSITY (AIR= 1): 1.5	SOLUBILITY IN H_2O @ 30 °C : Slight at 30 Deg. CG	
SPECIFIC GRAVITY (H2O=1): 0.51 to 0.58 at 50 Deg. CG	PH: NA	
3. FIRE AND EXPLOSION HAZARD DATA		
FLAMMABILITY : Yes	LEL : 1.8 %	UEL : 12.8 %
TDG FLAMMABILITY:	FLASH POINT (°C): -76	AUTO IGNITION

2.1	to -156 Deg. FH	TEMP(°C): 320 to 405 deg C
EXPLOSION SENSITIVITY TO IMPACT: NA	EXPLOSION SENSITIVITY TO STATIC ELECTRICITY: NA	HAZARDOUS COMBUSTION PRODUCTS : Carbon monoxide and carbon dioxide
HAZARDOUS POLIMERISATION : NA	EXPLOSIVE MATERIAL: NA	CORROSSIVE MATERIAL: NA
FLAMMABLE MATERIAL : NA	OXIDISER :NA	OTHERS :NA
PYROPHORIC : NA	ORGANIC PEROXIDE : NA	

4. REACTIVITY DATA

CHEMICAL STABILITY : Stable

INCOMPATABILITY
WITH OTHER MATERIAL : With oxidizing materials

REACTIVITY : Yes

HAZARDOUS REACTION PRODUCTS : Carbon dioxide, Carbon monoxide

5. HEALTH HAZARD DATA

ROUTES OF ENTRY: Skin Absorption: NA. Skin Contact: Yes (liquid) Eye Contact: Yes Inhalation: Acute: Yes Chronic: NA. Ingestion: No

EFFECTS OF
EXPOSURE / SYMPTOMS: Inhalation can cause headache, disorientation, dizziness, drowsiness and possibly
Unconsciousness at concentrations that cause oxygen deficiency and asphyxiation.
Rapidly expanding gas or vaporized liquid
may cause frostbite to skin and eyes

EMERGENCY TREATMENT : Flush eyes and skin with plenty of water and get medical aid.

TLV (ACGIH) : 100 PPM, 1800 mg/m3	STEL : PPM mg/m3
PERMISSIBLE EXPOSURE LIMITS **LD 50: PPM mg/m3**	ODOUR THRESHOLD LD50 : 5000ppm to 20000 ppm

NFPA HAZARD	HELATH: NA	FLAMABILITY : Yes	STABILITY: Stable	SPECIAL: NA

RATING				

6. PREVENTIVE MEASURES

PERSONAL PROTECTIVE EQUIPMENTS : Respiratory protective equipment required.
Eye & Face : Safety goggles.
Hand & Arm : Hand gloves (PVC synthetic only)
Other clothing and equipment : Gum boots, PVC apron.

HANDLING AND STORAGE PRECAUTION : Store the container in a cool, dry and well ventilated specified place, away from heat, spark and flame.

7. EMERGENCY AND FIRST- AID MESURES

FIRE	FIRE EXTINGUISHING MEDIA : Dry chemical powder, carbon dioxide and water spray.
	SPECIAL PROCEDURE : NA
	UNUSUAL HAZARDS : Air vapour mixture highly explosive.
EXPOSURE	FIRST AID MEASURES : **Skin**: If freeze burn occurs, gently bathe affected area in warm water (38 – 43) deg.C. Do not rub. Get medical attention. **Eye**: Immediately flush with large amounts of luke warm water for 15 minutes, lifting upper and lower lids at intervals. Seek medical attention if irritation persists. **Inhalation**: Remove to fresh air. Give oxygen, artificial respiration, or CPR if needed. Seek medical attention. **Ingestion**: Usually no effect by this route.
	ANTIDOTES / DOSAGES :NA
SPILLS	STEPS TO BE TAKEN : Do not enter in the gas area without protective wears. Get the area evacuated. Stop flow of gas if without risk. Spray water to keep the container cool
	WASTE DISPOSAL METHOD : Collect the spillage & wash the effected area with plenty of water. Allow gas to burn under control