Material Safety Data Sheet

May be used to comply with OSHA's Hazard Communication Standard 29CFR 1910 1209

Standard must be consulted for Specific Requirements

SECTION 1: Identification of the Substance/ Preparation and of the Company/Firm

Product Name:	LIQUEFIED PETROLEUM GAS * GP 40 Gram Vapor Gas Cartridge
Manufacturer:	**Plein Air International S.R.L.** Via Cavo 8/10, Cividale di Mirandola, MO)
Information Phone :	+39 339 788 6968
Emergency Phone :	888-249-3982
Date of Preparations /Revision	2/1/12
Product Use:	Fuel for Miniflam Torches
Product Use:	
Manufactured for:	PRODONT-HOLLIGER SA 1156, RTE DE LA SINE 06140 VENCE (FRANCE) TEL +33 (0)4 93 24 20 82 FAX +33 (0)4 93 24 68 26 WWW.PRODONT-HOLLIGER.COM
US Distributor:	MINIFLAM (USA) LLC 5913 MASSACHUSETTS AVENUE BETHESDA, MD 20816 TOLL FREE 800-232-3370
E-Mail	FAX 888-249-3986 info@miniflam.com

SECTION 2: Hazard Identification

EMERGENCY OVERVIEW

Extremely Flammable Aerosol! Vapors may cause flash fire. Contents under pressure. Heated can may rupture. Eye irritant. Inhalation may cause headache, dizziness, drowsiness, nausea, narcosis and unconsciousness. Repeated or prolonged over-exposure to contents may cause skin irritation. Intentional misuse such as deliberate concentration and inhalation of vapors may be harmful or fatal. *Refer to Section 11 for additional information.*

HAZARDOUS COMPONENT(S) (CHEMICAL & COMMON NAMES)	APPROXIMATE CONCENTRATION %	C.A.S. NUMBERS	EXPOSURE LIMITS
PETROLEUM HYDROCARBON LIQUEFIED PETROLEUM GAS N BUTANE PROPANE	 82% 18%	106-97-8	(ACGIH) TLV-TWA 1000 PPM
LD50/LC50 (SPECIES AND ROUTE	(LC50) INHALATION (RAT) 280,000 PPM/4 HRS		

DESCRIPTION: Liquefied Petroleum Gases, usually referred to with the acronym LPG, are gaseous hydrocarbons. They have several uses; the most common ones are: fuel for home and Industrial use.

US OSHA Classification (29CFR1910.1200): Flammable, Irritant, Pressure

Canadian WHMIS Classification: Class B-5 (Flammable Aerosol), Class D-2-B (Eye Irritant)

SECTION 3: Composition /Information on Ingredients

Derived from oil distillation and processing, from extraction well by separation of natural gas, from chemical processes. The LPG is essentially a mix of propane and butane. The commercial composition may contain small amounts of other saturated hydro-carbons (ethane, isobutene and pentane) or unsaturated hydro-carbons (propylene and butenes) whose dangers do not differ from those typical of the substance indicated in para. 2.

Gas Odorization Standard is UNI 7133 (combustible gases). The concentrations of the above products, however, are lower than the prescribed limits.

SECTION 4: First Aid Measures

INHALATION (GAS PHASE): Remove the injured person from the polluted area; immediately treat the injured person in case of symptoms due to vapors inhalation; ventilate the injured person in case of respiration difficulties.

CONTACT WITH SKIN (FLUID PHASE): Wash the affected part of the skin with water; remove clothing carefully and wash the affected part with plenty of water. Seek a doctor for the treatment of possible lesions caused by cold.

CONTACT WITH EYES (FLUID PHASE): Wash with plenty of water with eyelids fully open; seek a specialist as soon as possible.

INGESTION: Not applicable.

SECTION 5: Fire-Fighting Measures

N.F.P.A.

Flammability	Reactivity	Health	
4	0	(Acute) 1	(Chronic) N

Do not extinguish a fire if you're not sure to be able to intercept the gas flow. An immediate outflow is preferable to a gas cloud, which expands and may find a source of ignition.

Use water to cool canisters and tanks hit by the fire to avoid overheating (with possibility of burst). Small fires can be extinguished with chemical dust extinguishers, or with car-bon dioxide extinguishers.

Significant amounts of burning outflows, when it is not possible to extinguish them by stopping the gas flow, shall be minimized and kept under control using spread jet water nozzles.

Use nebulised or split jet water to dilute, below the explosion threshold, the concentration of gas clouds (if any) dangerous products of combustion: CO2, with danger of asphyxia in confined areas. The special equipment for fire-fighting squads shall include helmets, visors, gloves as well as, in the most difficult cases, fire repellent suits and autorespirators.

SECTION 6: Accidental Release Measures

Remove ignition sources. - Do not use electric devices, unless in safety conditions. - Isolate the outflow area. Stop the outflow source, if it is possible to do it without risk. Avoid the contact of the fluid with skin and eyes; - Inform the neighbors about the risk of fire and explosion; - Move away the personnel not provided with suitable protective means. Ventilate interiors, let the product evaporate - Prevent the gas from flowing into underground areas (e.g.: cellars, etc.), taking into account that vapors are heavier than air. Inform the competent authorities according to the emergency plans.

SECTION 7: Handling and Storage

7.1 HANDLING: Prevent prolonged or repeated breathing vapors, mists and aerosol spray. Use only with adequate ventilation. Protect hands with suitable gloves.

Avoid contact with the eyes, skin and clothing. Wear appropriate protective clothing when handling this material. Prevent buildup of vapors. Use only as directed. Keep away from heat, sparks, flames and all other sources of ignition. Do not smoke while using product or until all vapors have dissipated.

7.2 STORAGE: Store product below 120 F (48 C) in a cool; dry, well ventilated place away from direct sunlight, excessive heat and incompatible materials. Do not puncture or incinerate containers.

7.3 SPECIFIC USES: Storage and handling of the product to be used for lighters, lighter recharges, aerosol and gas cartridges with their vessels must comply with ADR standards, specifically the packing Instructions P003.

SECTION 8: Exposure Controls / Personal Protection

8.1 EXPOSITION LIMIT THRESHOLDS: Dangerous concentrations for professional inhalation, above which damage due to exposition is foreseeable are included in the document by ACGIH "Threshold Limit Value (TLV's) for Chemical Substances and Physical Agents & Biological Exposure Indices (BEI's), 2006 edition. TLV-TWA : 1000 ppm *

Average concentration weighted over time (standard working day of 8 hours, 40 weekly working hours), to which the workers can be repeatedly exposed, day after day, without Negative effects.

**** - The specific TLVs for the LPG were removed in 2004. The table value, in compliance with the 2006 update, refers to "Aliphatic hydrocarbons: Alkanes [C1-C4]".***

8.2 EXPOSURE SAFETIES:

(a) Respiratory protection: In case of interventions in areas with gas presence, use auto respirators;

(b) Hands protection: Use leather gloves and thermal insulation gloves with forearm protection for emergency.

(c) Eyes protection: Use safety goggles, visors, face shields to protects from fluid jets.

(d) Skin protection: Use complete antistatic clothes, covering both upper and lower limbs.

8.2.2 ENVIRONMENTAL EXPOSURE PROTECTIONS: No evidence.

SECTION 9: Physical and Chemical Properties

Stabilized Physical State:	Pressurized Liquefied Gas
Color: Colorless	**PH:** Neutral
Smell: Characteristic, if odorized for combustion	**Smelling Point:** 0.2 ÷ 0.4% with odorizer
Solvents: Methanol, Ethanol, Ether	
*** Volumic mass of the fluid at 15° C, in Kg/l:** 0.508 (propane) to 0.584 (butane), (method ASTM D 1657)	
*** Volumic mass of steam at 15° C, in Kg/m30:** 1.86 (propane) to 2.45 (butane)	
*** Steam tension (abs.) at 15°C, in bars:** 7.5 (propane) to 1.8 (butane), (method ASTM D 1267)	
*** Boiling point in °C:** - 42 (propane) to - 0.5 (butane)	
*** Melting point in °C:** - 187 (propane) to - 138 (butane)	
*** Flash point in °C:** - 104 (propane) to - 60 (butane)	
*** Self ignition point in C:** 468 (propane) to 405 (butane)	
*** Melting point in °C:** - 187 (propane) to - 138 (butane)	
*** Critical point in °C:** 96.5 (propane) to 151 (butane)	
Lower and higher flash point threshold in air, % in volume; 1,8 ÷ 9,5	
Materials Suitability: It melts fat and attacks natural rubber. Not corrosive for metallic materials.	
Solubility in water: Marginal	
**** Dynamic viscosity in fluid phase, in Pa x s:** 11x10-5 (propane) to 17x10-5 (butane)	
**** Thermal conductivity in fluid phase at 15°C in °C: W/m x:** 13 x 10 -2	
*****Electric conductivity in fluid phase (at 0°÷20°C) in Ω-1 x m -1:** 0.1 ÷ 0.5 x 10 -12 (propane), 1 ÷ 5 x 10 -12 (butane)	
Notes: * Intermediate mixes feature values proportional to their percentages. ** Technical Data Book – A.P.I.(2nd edition, 1970) * Encyclopédie des gaz – ELSEVIER (1976)**	

SECTION 10: Stability and Reaction

NO INSTABILITY CONDITION:

10.1 Conditions to be avoided. Avoid significant heating of product and vessels. Avoid quick decompression of the vessels since it generates significant cooling, with temperatures well below 0 °C.

10.2 Materials to be avoided: Incompatible with oxidizing agents.

10.3 Dangerous decomposition products: In case of trigger, it burns with exothermal reaction and production of carbon monoxides (CO2, CO). No possibility of degradation with formation of unstable products. No stabilizer is required.

SECTION 11: Toxicological Information

Acute toxicity: Slightly narcotic product; in high concentrations can cause asphyxia. The quick evaporation of the product in fluid phase in contact with eyes and skin causes burns due to cold.
There are no evidences related to the following effects: chronic toxicity, sensitizing power, cancergenesis, mutagenesis, terato-genesis.

SECTION 12: Ecological Information

There are no data of ecotoxicity and biodegradability due to the high volatility of the product: it doesn't persist in aqueous means therefore it is not possible to perform the tests. The release of big quantities of the product in the environment can increase the air content in volatile organic compounds (V.O.C.). Therefore it is necessary to avoid outflows by carrying out the handling in a closed cycle. The product is classified in danger class "0 – generally non polluting waters" – (sources BASF and HUELS – IUCLID, Existing Chemicals – 1996) Ozone depletion potential (O.D.P.): 0 zero

SECTION 13: Considerations Concerning Disposal

When the Miniflam fuel runs out, it is good practice to let the canister sit for a while, and attempt to relight the torches before discarding. DO NOT INCINERATE. Discard as you would a can of hair spray such as with trash destined for a land fill. Do not discard canisters unless they are totally empty.

SECTION 14: Transport Information

US Ground (DOT)

May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as Consumer Commodity, ORM-D
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, ERG#126

IMO

May be shipped as Limited Quantity
UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, EmS F-D, S-U

SECTION 15: Information About Standards and Rules

Personal Protective Equipment

SECTION 16: Information About Standards and Rules

NFPA 58 - Liquefied Petroleum Gas Code, 2011 Edition

Meets with All Requirements in 6.19.9.1 Use in Buildings for Demonstrations or Training, and Use of Small Cylinders for Self-Contained Torch Assemblies and Food Service Appliances. Only 40 Grams, 70ml

Meets with All Requirements in 6.19.9.2 Cylinders used temporarily in buildings for training purposes related to the installation and use of LP-Gas systems shall be in accordance with the following: The maximum water capacity of a cylinder shall be 12 lb (5.4 kg) [nominal 5 lb (2 kg) propane capacity]. Only 40 Grams 70ml.

(2) If more than one such cylinder is located in a room, the cylinders shall be separated by at least 20 ft (6.1 m).

6.19.9.3* Cylinders used in buildings as part of approved self-contained torch assemblies or similar appliances shall be in accordance with the following:

(1) Cylinders used in buildings comply with ANSI/UL 147A, Standard for Non-refillable (Disposable) Type Fuel Gas Cylinder Assemblies. Cylinders are significantly below maximum water capacity of 2.7 lb (1.2 kg) at 40 Grams.

6.19.9.4 (NA)

NFPA 1 - Fire Code, 2012 Edition

69.3.10.8 Use in Buildings for Demonstrations or Training, and Use of Small Cylinders for Self-Contained Torch Assemblies and Food Service Appliances.

Meets with All Requirements in 69.3.10.8.1,

Meets with All Requirements in 69.3.10.8.2,

Meets with All Requirements in 69.3.10.8.3,
Meets with All Requirements in 69.3.10.8.4

Disclaimer: This factsheet has been prepared for informational purposes only and should not be construed as medical evidence or advice. The information in this factsheet was obtained from a number of reputable sources, but it has not been reviewed for accuracy.

GENERAL SAFETY TIPS:

Store your fuel canister upright and secure from the risk of falling or rolling and falling off elevated areas. Avoid storing canisters in hot places or direct sunlight. Do not store in small enclosed places.

Liquid gases when released can freeze the skin. See MSDS sheet on reverse side of this pamphlet.

The Miniflam GP Vapor Gas, a special blend of propane-butane designed to achieve the perfect balance between the higher working temperature and even tempered flowing butane with the robust and cooler characteristics of propane. This mixture has been specifically calibrated to work with our tips. Miniflam Gas comes in liquid state. The gas has been filtered to eliminate sulfur, paraffin, and other impurities which can clog jets (injectors) and offers the cleanest possible burning flame. Always use Miniflam gas to insure continuous operation of your Miniflam torch.

When installing the cartridge onto a torch it is normal to briefly hear the release gas. Continue to screw in the cartridge in until it is hand tight. See specific directions for each. This may also occur when removing the cartridge from the torch. Continue to unscrew the cartridge, it will re-seal itself.

Miniflam GP40 Vapor Gas

MSDS Sheet

GP40 Vapor Gas
Reference # 47-1621

Benefits

Miniflam GP40 Vapor Gas is one the industries safest gas delivery system on the market.

1) They limit the quantity and volume of gas into smaller vessels thereby limiting the potential of catastrophic danger in storage and operation.

2) Operate in any orientation. Unlike, other gas bottles, they do not need to be vertical in order to convert liquid gas into vapor gas an essential requirement for any torch to operate.

3) Gas burns clean. The mixture has been highly filtered to remove impurities, sulfur, and paraffin that clog jets.

4) Gas mixture offers more control to light and maintain even the smallest flame.

5) They are easy to carry weighting only 6oz.

6) The convenient cartridge is self sealing and can be removed from torch, thereby retaining the balance of gas inside when not in use.

CAUTION: Please read all instructions before using the Miniflam GP Vapor Gas. Regularly check gas valves for leaks. Use soapy water to check for leaks when they are suspected. An atmosphere with too much gas can be dangerous. Flammable gazes are heavier than air and can form a flammable layer at floor level. Do not let fuel uselessly escape from system. Be aware that brazing and welding techniques produce suffocating volatile gases, for this reason, it is necessary to provide adequate ventilation by means of equipment to exhaust smoke and gases to the outdoors.