

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

## 1- IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

**Material Name:** Liquefied Petroleum Gases

**CAS No** : 68476-85-7

**EC No** : 270-704-2

**Other Names of Products:**

**Tüpraş-080 Liquefied Petroleum Gases (Automotive LPG)**

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Multi-purpose product with applications including gaseous fuel for domestic and industrial uses; internal combustion engine fuel; aerosol propellant

### 1.3 Details of the supplier of the substance or mixture

**Manufacturer/Supplier** : Tüpraş

**Adress** : Türkiye Petrol Rafinerileri A.Ş. Genel Müdürlüğü KÖRFEZ/KOCAELİ

**Telephone** : +90-262 316 30 00

**Fax** : +90-262 316 30 10-11

**e-mail** : [omer.ocak@tupras.com.tr](mailto:omer.ocak@tupras.com.tr)

[sinasi.seymenbasi@tupras.com.tr](mailto:sinasi.seymenbasi@tupras.com.tr)

### 1.4 Emergency Telephone Number

**Telephone** : 114 (UZEM)

## 2- HAZARD IDENTIFICATION

### 2.1 Classification of substance or mixture

Extremely flammable gas, Category 1	H220
Contains gas under pressure; may explode if heated.	H280

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

## 2.2 Label Elements

### Symbols:



**Signal Word:** Danger

### Hazard statements

#### Physical Hazards:

**H220-** Extremely flammable gas.

**H280-** Contains gas under pressure; may explode if heated.

#### Health hazards:

Not classified as an environmental hazard under GHS criteria.

#### Environmental Hazards:

Not classified as an environmental hazard under GHS criteria.

### Precautionary statements:

#### Prevention:

**P102:** Keep out of reach of children.

**P210:** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

**P243:** Take precautionary measures against static discharge.

#### Response:

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

**P377:** Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

**P381:** Eliminate all ignition sources if safe to do so.

**Storage:**

**P410+P403:** Protect from sunlight. Store in a well-ventilated place.

**2.3 Other hazards**

Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Vapours are heavier than air. Vapours may travel across the ground and reach remote ignition sources causing a flashback fire danger. High gas concentrations will displace available oxygen from the air; unconsciousness and death may occur suddenly from lack of oxygen.

**3- COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substance**

CAS NO:	EINECS NO:	Chemical Composition	% Conc.	Risk Phrases
68476-85-7	270-704-2	Complex mixture of hydrocarbons consisting of C3 and C4 predominantly.	100	Extremely flammable gas, H220 Contains gas under pressure may explode if heated, H280

**3.2 Mixtures**

Not applicable.

**4- FIRST AID MEASURES**

**4.1 Description of First Aid Measures**

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

**Inhalation:** Remove to fresh air. If breathing but unconscious, place in the recovery position. If breathing has stopped, apply artificial respiration. If heartbeat absent, give external cardiac compression. Monitor breathing and pulse. Seek urgent medical advice.

**Skin Contact:** Do not remove clothing that adheres to skin due to freezing. In the event of frostbite, slowly warm the exposed area by rinsing with warm water. Otherwise: Obtain medical treatment immediately. Contaminated clothing may be a fire hazard and therefore should be soaked with water before being removed. Loosen tight clothing. Keep warm and at rest.

**Eye contact:** DO NOT DELAY. Obtain medical treatment immediately. Remove contact lenses, if present and easy to do. Continue rinsing. Flush eye with copious quantities of water.

**Ingestion:** In the unlikely event of ingestion, obtain medical attention immediately.

#### **4.2 Most important symptoms/effects, acute & delayed**

High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued exposure may result in unconsciousness and/or death.

#### **4.3 Indication of immediate medical attention and special treatment needed**

Treat symptomatically. Administer oxygen if necessary.

## **5- FIRE-FIGHTING MEASURES**

### **5.1 Extinguishing Media**

Shut off supply. If not possible and no risk to surroundings, let the fire burn itself out. Use foam, water fog for major fires. Use dry chemical powder, carbon dioxide, sand or earth for minor fires.

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

## **5.2 Special hazards arising from substance or mixture**

Hazardous combustion products may include: Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds. Sustained fire attack on vessels may result in a Boiling Liquid Expanding Vapour Explosion (BLEVE). Contents are under pressure and can explode when exposed to heat or flames. The vapour is heavier than air, spreads along the ground and distant ignition is possible.

## **5.3 Advice for fire-fighters**

Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards. Keep adjacent containers cool by spraying with water. If possible remove containers from the danger zone. If the fire cannot be extinguished the only course of action is to evacuate immediately.

## **6- ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area and evacuate all personnel. Attempt to disperse the gas or to direct its flow to a safe location for example by using fog sprays. Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Monitor area with combustible gas meter. Test atmosphere for flammable gas concentrations to ensure safe working conditions before personnel are allowed to enter the area.

### **6.2 Environmental precautions**

Use appropriate containment to avoid environmental contamination.

### **6.3 Methods and material for containment and cleaning up**

Allow to evaporate. Attempt to disperse the gas or to direct its flow to a safe location, for example by using fog sprays.

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Vapour may form an explosive mixture with air. Risk of explosion. Inform the emergency services if product enters surface water drains.

#### **6.4 Reference to other sections**

Refer to sections 8 and 13.

### **7- HANDLING AND STORAGE**

#### **7.1 Precautions for safe handling**

This product can create a low temperature exposure hazard when released as a liquid. Extinguish any naked flames. Do not smoke. Remove ignition sources. Avoid sparks. Avoid prolonged or repeated contact with skin. Electrostatic charges may be generated during handling. Electrostatic discharge may cause fire. Earth all equipment. Use local exhaust ventilation if there is risk of inhalation of vapours, mists or aerosols.

#### **7.2 Conditions for safe storage, including any incompatibilities**

Store only in purpose-designed, appropriately labelled pressure vessels or cylinders. Must be stored in a wellventilated area, away from sunlight, ignition sources and other sources of heat. Do not store near cylinders containing compressed oxygen or other strong oxidizers. The vapours in the head space of the storage vessel may lie in the flammable/explosive range and hence may be flammable. Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

#### **7.3 Specific end use**

Except as provided in Section 1.2 is not required to offer any specific suggestions.

### **8- EXPOSURE CONTROLS/PERSONAL PROTECTION**

#### **8.1 Control parameters**

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

#### Exposure Limits

ACGIH (USA) : 1000 ppm (8 hr TWA)

### 8.2 Exposure controls



#### 8.2.1 Appropriate engineering controls

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include: Use sealed systems as far as possible. Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits. Local exhaust ventilation is recommended. Exhaust emission systems should be designed in accordance with local conditions; the air should always be moved away from the source of vapour generation and the person working at this point. Firewater monitors and deluge systems are recommended. Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Drain down system prior to equipment break-in or maintenance.

#### 8.2.2 Personal protective precautions

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

**Eye Protection:** Chemical splash goggles (gas-tight monogoggles) and face shield with chin guard.

**Skin Protection:** Protective clothing and gloves should be used.

**Protective Clothing:** Chemical and cold resistant gloves/gauntlets, boots, and apron.

## 9- PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties



This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

	Test Unit	Guarantee	Test Method
Appearance		No data	
Odour		Distinctive and unpleasant at 20 % Lower flammability limit	EN 589+A1 Annex A
Odour threshold		No data	
pH		No data	
Melting point / freezing point		No data	
Initial boiling point and boiling range		No data	
Evaporation rate		No data	
Flammability		No data	
Upper / lower flammability or explosive limits	%(V)	5/15	
Vapor Pressure	kPa	1430 max	TS 1298 EN ISO4256 TS EN ISO 8973
Vapor density(Air=1)		No data	
Relative density (at 15 °C)	Kg/L	0.50-0.55	TS 1013 EN ISO 3675 TS EN ISO 12185
Resolution		No data	
Partition coefficient: n-octanol / water		No data	
Decomposition temperature		No data	
Fluidity (Viscosity) (40 °C)		No data	
Flash Point	°C	-105/-60	
Explosive properties		No data	
Oxidising properties		No data	

## 9.2 Other Information

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

Mixibility	No data
Oil solubility	No data
Conductivity	No data

## 10- STABILITY AND REACTIVITY

### 10.1 Reactivity

Hazardous combustion products, nitrogen oxides (NO<sub>x</sub>). carbon oxides.

### 10.2 Chemical Stability

Stable at ambient temperatures.

### 10.3 Possibility of Hazardous Reactions

No hazardous reaction is expected when handled and stored according to provisions.

### 10.4 Conditions to avoid

Heat, open flames, sparks and flammable atmospheres.

### 10.5 Incompatible materials

Strong oxidising agents.

### 10.6 Hazardous decomposition products

Incomplete combustion will generate hazardous gases, including carbon monoxide.

## 11- TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute Oral Toxicity:** Not applicable.

**Acute Dermal Toxicity:** Not applicable.

**Acute Inhalation Toxicity:** Low toxicity: LC50 >20 mg/l , 4.00 h, Rat

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

**Skin corrosion/irritation:** Not irritating to skin.

**Serious eye damage/irritation:** Will present a risk of serious damage to the eyes if contact with liquid occurs.

**Respiratory Irritation:** Inhalation of vapours or mists may cause irritation to the respiratory system.

**Respiratory or skin sensitization:** Not expected to be a sensitiser.

**Aspiration Hazard:** Not considered an aspiration hazard.

**Germ cell mutagenicity:** No evidence of mutagenic activity.

**Carcinogenicity:** Not expected to be carcinogenic.

**Reproductive and Developmental Toxicity:** Not expected to impair fertility. Not a developmental toxicant.

**Specific target organ toxicity - single ex Low systemic toxicity on repeated exposure:**

High concentrations may cause central nervous system depression resulting in headaches, dizziness and nausea; continued inhalation may result in unconsciousness and/or death.

**Specific target organ toxicity - repeated exposure:** High vapor concentrations may produce symptoms of oxygen deficiency which, coupled with central nervous system depression, may lead to rapid loss of consciousness.

## 12- ECOLOGICAL INFORMATION

### 12.1 Toxicity

The information given below is based partly on a knowledge of the components and the ecotoxicology of similar products.

**Acute Toxicity:** LL/EL/IL50 > 100 mg/l (to aquatic organisms) LL/EL50 expressed as the nominal amount of product required to prepare aqueous test extract.

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

**Chronic Toxicity:**

**Fish:** Data not available.

**Aquatic crustacea:** Data not available.

**12.2 Persistence and degradability**

Expected to be readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.

**12.3 Bioaccumulative potential**

Not expected to bioaccumulate significantly.

**12.4 Mobility in soil**

Spillages are unlikely to penetrate the soil.

**12.5 Results of PBT and vPvB assessment**

The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

**12.6 Other adverse effects**

There is no additional information.

**13- DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment**

**methods Material Disposal:**

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Waste arising from a spillage or tank cleaning should be disposed of in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand. Do not dispose into the environment, in drains or in water courses. Given the nature and uses of this product, the need for

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

disposal seldom arises. If necessary, dispose by controlled combustion in purpose-designed equipment. If this is not possible, contact the supplier.

**Container Disposal:**

Return part-used or empty cylinders to the supplier. For tanks seek specialist advice from suppliers. Dispose in accordance with prevailing regulations, preferably to a recognised collector or contractor. The competence of the collector or contractor should be established beforehand.

**Local Legislation:**

Ministry of Environment and Urbanism "Regulation on Control of Waste"

**14- TRANSPORT INFORMATION**

**Land transport (ADR/RID):**

**ADR**

**14.1 UN Number :** 1965

**14.2 UN proper shipping name :** HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (LPG)

**14.3 Transport hazard class(es) :** 2.1

**14.4 Packing group :** Undefined

**14.5 Environmental hazards :** No

**14.6 Special precautions for user :** Refer to Chapter 7

**RID**

**14.1 UN Number :** 1965

**14.2 UN proper shipping name :** HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (LPG)

**14.3 Transport hazard class(es) :** 2.1

**14.4 Packing group :** Undefined

**14.5 Environmental hazards :** No

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

**14.6 Special precautions for user : Refer to Chapter 7**

**Inland waterways transport (ADN):**

**14.1 UN Number : 1965**

**14.2 UN proper shipping name : HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (LPG)**

**14.3 Transport hazard class(es) : 2.1**

**14.4 Packing group : Undefined**

**14.5 Environmental hazards : No**

**14.6 Special precautions for user : Refer to Chapter 7**

**Sea transport (IMDG Code):**

**14.1 UN Number : 1965**

**14.2 UN proper shipping name : HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (LPG)**

**14.3 Transport hazard class(es) : 2.1**

**14.4 Packing group : Undefined**

**14.5 Marine pollutant : No**

**14.6 Special precautions for user : Refer to Chapter 7**

**Air transport (IATA):**

**14.1 UN Number : 1965**

**14.2 UN proper shipping name : HYDROCARBON GAS MIXTURE, LIQUEFIED, N.O.S. (LPG)**

**14.3 Transport hazard class(es) : 2.1**

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

**14.4 Packing group** : Undefined

**14.5 Environmental hazards** : No

**14.6 Special precautions for user** : Refer to Chapter 7

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No data.

**15- REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This Safety Data Sheet, Environment and Urban Planning Ministry by December 13, 2014 date and 29204 numbered published in the Official Gazette of Hazardous Substances Regulation on safety data sheets of mixtures' Environment and Forestry and the Ministry of 26 by December 2008, and 27092 (bis) Official Gazette published "Classification of Hazardous Substances and preparations Regulations on Packaging and Labelling 'base is based.

**16- OTHER INFORMATION**

**Hazard Statements:**

**H220-** Extremely flammable gas.

**H280-** Contains gas under pressure; may explode if heated.

The information presented about health, safety and environment issues in this safety data sheet was given by considering of best knowledge and reliable sources at the date of its preparation. Although maximum effort was shown, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Health and safety precautions and environmental advice noted in this data sheet may not be accurate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. No statement made in this data sheet shall be construed as a permission, recommendation or authorization given or implied to practice any patented invention without a valid license. The TÜPRAŞ shall not be responsible for any damage or injury

Hizmete Özel / Confidential



Türkiye Petrol Rafinerileri A.Ş.

**SAFETY DATA SHEET LIQUEFIED  
PETROLEUM GASES**

Dok. No : TPR.ÜPM.SDS.0070  
Yayın Tarihi : 30.10.1998  
Rev. No : 5  
Rev.Tarihi : 25.11.2016  
Sayfa No : 16/16

This Safety Data Sheet is prepared according to "Regulation on the Safety Data Sheets Relating to Hazardous Substances and Mixtures" published with the date of 13 December 2014 and No.29204 at Official Gazette.

resulting from abnormal use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material.

Prepared by : Şinasi SEYMENBAŞI

Document Date : 01.10.2015

Document No : GBF-2101