

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product form	: Substance (UVCB)
Trade name	: MINI CARTRIDGE GAS
Chemical name	: Hydrocarbons, C3-4, Petroleum gas contains less than 0,1 % w/w 1,3-butadiene (EINECS No 203-450-8)
EC Index-No.	: 649-199-00-1
EC-No.	: 270-681-9
CAS-No.	: 68476-40-4
Product code	: 521860
Vaporizer	: liquefied gas
Product group	: Trade product

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

##### 1.2.1. Relevant identified uses

Intended for general public	
Main use category	: Consumer use, Professional use
Use of the substance/mixture	: PETROLEUM GASES, LIQUEFIED
Function or use category	: Fuels

##### 1.2.2. Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

##### VIRAX SAS

39, quai Marne  
CS 40197  
51206 EPERNAY Cedex

Tel: +33 (0)3 26 59 56 56 - Fax: +33 (0)3 26 59 56 60

Contact: hse@virax.com

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241	

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable gases, Category 1 H220

Gases under pressure : Liquefied gas H280

Full text of H statements : see section 16

#### Adverse physicochemical, human health and environmental effects

Contains gas under pressure; may explode if heated. Extremely flammable gas.

#### 2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

# MINI CARTRIDGE GAS

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Signal word (CLP)	: Danger
Hazard statements (CLP)	: H220 - Extremely flammable gas H280 - Contains gas under pressure; may explode if heated
Precautionary statements (CLP)	: P102 - Keep out of reach of children P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely P381 - In case of leakage, eliminate all ignition sources P403 - Store in a well-ventilated place P410+P403 - Protect from sunlight. Store in a well-ventilated place P501 - Dispose of contents and container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

No additional information available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type	: UVCB
Name	: MINI CARTRIDGE GAS _521860
CAS-No.	: 68476-40-4
EC-No.	: 270-681-9
EC Index-No.	: 649-199-00-1

Name	Product identifier	%
Hydrocarbons, C3-4, Petroleum gas contains less than 0,1 % w/w 1,3-butadiene (EINECS No 203-450-8) (Note K and U)	(CAS-No.) 68476-40-4 (EC-No.) 270-681-9 (EC Index-No.) 649-199-00-1	100

Note K: The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w 1,3-butadiene (EINECS No 203-450-8). If the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-P210-P403 (Table 3.1) or the S-phrases (2-)9-16 (Table 3.2) should apply. This note applies only to certain complex oil-derived substances in Part 3.

Note U: When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

LPG consists mainly of a mixture of propane and butane. In the commercial composition, it may contain small amounts of other saturated hydrocarbons (ethane, isobutane and pentane) or unsaturated hydrocarbons (propylene and butenes) which present no hazards other than those characteristic of the substance indicated in point 2.

If intended for combustion, it contains a denaturing product, measuring 4 g every 100 kg of LPG, as established by the D.M. 21.3.1996 of the Ministry of Finance.

In addition, LPG may contain an odorant in order to detect the presence already at concentrations below L.I.E. in accordance with L. 6.12.1971, No. 1083.

The odorisation of the gas must be carried out according to UNI 7133 (combustible gas) and according to UNI EN 589 (LPG for self-traction). The aforementioned products are in all cases present at concentrations below the prescribed limits.

Full text of H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Call a poison center or a doctor if you feel unwell. Observe precautions pertaining to confined space access.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician. Place under medical observation. Give oxygen or artificial respiration if necessary.
First-aid measures after skin contact	: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance. Rinse skin with water/shower. Take off contaminated clothing. Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell. Ingestion unlikely.

### 4.2. Most important symptoms and effects, both acute and delayed

No additional information available

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according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : Extremely flammable gas.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

### 5.3. Advice for firefighters

Firefighting instructions : Eliminate all ignition sources if safe to do so. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Use water spray or fog for cooling exposed containers. Use water spray/fog to disperse vapours below flammable limit.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

General measures : Evacuate unnecessary personnel. Evacuate area. Remove ignition sources. Avoid contact with skin and eyes. Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

#### 6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

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

Methods for cleaning up : Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site. Ventilate well. Contain the extinguishing fluids by bunding.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Eliminate all ignition sources if safe to do so. Handling this product may result in electrostatic accumulation. Use proper grounding procedures. Take precautionary measures against static discharge.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Contaminated work clothing should not be allowed out of the workplace. Separate working clothes from town clothes. Launder separately.

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

Storage conditions : Protect from sunlight. Store in a well-ventilated place. Keep cool. Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment (ATEX). Keep away from open flames, hot surfaces and sources of ignition. Store in original container.

Incompatible products : Oxidant gas.

### 7.3. Specific end use(s)

See Heading 1.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

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### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station. The usual precautionary measures are to be adhered to when handling chemicals.

#### Hand protection:

Choosing the proper glove is a decision that depends not only on the type of material, but also on other quality features, which differ for each manufacturer. Time of penetration is to be checked with the glove producer. Protective gloves

#### Eye protection:

Chemical goggles or face shield

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

#### Thermal hazard protection:

Contact with the product may cause cold burns or frostbite.

#### Environmental exposure controls:

Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Gas
Colour	: Colourless.
Odour	: characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -138 - -187 °C Butane - Propane
Freezing point	: No data available
Boiling point	: -42 - -0,5 °C Propane - Butane
Flash point	: No data available
Auto-ignition temperature	: 468 - 405 °C Propane - Butane
Decomposition temperature	: No data available
Flammability (solid, gas)	: -104 - -60 °C Propane - Butane Extremely flammable gas
Vapour pressure	: 1,8 - 7,5 bar Propane – Butane ASTM D1267
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0,508 - 0,584 kg/l Propane – Butane ASTM D1657
Solubility	: insoluble in water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 0,00017 Pa.s Butane
Explosive properties	: No data available
Oxidising properties	: No data available
Lower explosive limit (LEL)	: 1,86 - 2,27 vol %
Upper explosive limit (UEL)	: 8,41 - 11 vol %

### 9.2. Other information

Gas group : Press. Gas (Liq.)

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Extremely flammable gas.

### 10.2. Chemical stability

Stable under normal conditions.

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### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Oxidizing agent.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Serious eye damage/irritation	: Contact with the product may cause cold burns or frostbite
Additional information	: Based on available data, the classification criteria are not met
Respiratory or skin sensitisation	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Germ cell mutagenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Carcinogenicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Reproductive toxicity	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-single exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
STOT-repeated exposure	: Not classified
Additional information	: Based on available data, the classification criteria are not met
Aspiration hazard	: Not classified
Additional information	: Based on available data, the classification criteria are not met

### MINI CARTRIDGE GAS (68476-40-4)

Vaporizer

liquefied gas

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Results of PBT and vPvB assessment

No additional information available

### 12.6. Other adverse effects

No additional information available

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### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

Regional legislation (waste)	: Ensure all national/local regulations are observed. Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions. Preferred disposal is combustion in a flare system. Following use, do not pierce or burn the packaging, even if it is empty.
Additional information	: Handle empty containers with care because residual vapours are flammable.
HP Code	: H3-A - 'Highly flammable' : — liquid substances and preparations having a flash point below 21 °C (including extremely flammable liquids), or — substances and preparations which may become hot and finally catch fire in contact with air at ambient temperature without any application of energy, or — solid substances and preparations which may readily catch fire after brief contact with a source of ignition and which continue to burn or to be consumed after removal of the source of ignition, or — gaseous substances and preparations which are flammable in air at normal pressure, or — substances and preparations which, in contact with water or damp air, evolve highly flammable gases in dangerous quantities.
R code/ D code	: R1 - Use principally as a fuel or other means to generate energy

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: 2037
UN-No. (IMDG)	: 2037
UN-No. (IATA)	: 2037
UN-No. (ADN)	: 2037
UN-No. (RID)	: 2037

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)
Proper Shipping Name (IMDG)	: RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)
Proper Shipping Name (IATA)	: Gas cartridges
Proper Shipping Name (ADN)	: RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)
Proper Shipping Name (RID)	: RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES)
Transport document description (ADR)	: UN 2037 RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES), 2.1, (D)
Transport document description (IMDG)	: UN 2037 RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES), 2.1
Transport document description (IATA)	: UN 2037 Gas cartridges, 2.1
Transport document description (ADN)	: UN 2037 RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES), 2.1
Transport document description (RID)	: UN 2037 RECEPTACLES, SMALL, CONTAINING GAS (GAS CARTRIDGES), 2.1

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: 2.1
Danger labels (ADR)	: 2.1



##### IMDG

Transport hazard class(es) (IMDG)	: 2.1
Danger labels (IMDG)	: 2.1



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### IATA

Transport hazard class(es) (IATA) : 2.1  
Hazard labels (IATA) : 2.1



### ADN

Transport hazard class(es) (ADN) : 2.1  
Danger labels (ADN) : 2.1



### RID

Transport hazard class(es) (RID) : 2.1  
Danger labels (RID) : 2.1



### 14.4. Packing group

Packing group (ADR) : Not established.  
Packing group (IMDG) : Not established.  
Packing group (IATA) : Not established.  
Packing group (ADN) : Not established.  
Packing group (RID) : Not established.

### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

### 14.6. Special precautions for user

#### - Overland transport

Classification code (ADR) : 5F  
Special provisions (ADR) : 191, 303, 344  
Limited quantities (ADR) : 11  
Excepted quantities (ADR) : E0  
Packing instructions (ADR) : P003  
Special packing provisions (ADR) : PP17, RR6  
Mixed packing provisions (ADR) : MP9  
Transport category (ADR) : 2  
Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV12  
Special provisions for carriage - Operation (ADR) : S2  
Tunnel restriction code (ADR) : D

#### - Transport by sea

Special provisions (IMDG) : 191, 277, 303, 344  
Limited quantities (IMDG) : SP277

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Excepted quantities (IMDG)	: E0
Packing instructions (IMDG)	: P003
Special packing provisions (IMDG)	: PP17
EmS-No. (Fire)	: F-D
EmS-No. (Spillage)	: S-U
Stowage category (IMDG)	: B
Stowage and handling (IMDG)	: SW2

### - Air transport

PCA Excepted quantities (IATA)	: E0
PCA Limited quantities (IATA)	: Y203
PCA limited quantity max net quantity (IATA)	: 1kg
PCA packing instructions (IATA)	: 203
PCA max net quantity (IATA)	: 1kg
CAO packing instructions (IATA)	: 203
CAO max net quantity (IATA)	: 15kg
Special provisions (IATA)	: A167
ERG code (IATA)	: 10L

### - Inland waterway transport

Classification code (ADN)	: 5F
Special provisions (ADN)	: 191, 303, 344
Limited quantities (ADN)	: 1 L
Excepted quantities (ADN)	: E0
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 1

### - Rail transport

Classification code (RID)	: 5F
Special provisions (RID)	: 191, 303, 344
Limited quantities (RID)	: 1L
Excepted quantities (RID)	: E0
Packing instructions (RID)	: P003
Special packing provisions (RID)	: PP17, RR6
Mixed packing provisions (RID)	: MP9
Transport category (RID)	: 2
Special provisions for carriage - Loading, unloading and handling (RID)	: CW9, CW12
Colis express (express parcels) (RID)	: CE2
Hazard identification number (RID)	: 23

### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not established.

## SECTION 15: Regulatory information

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

#### 15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006:

40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.	Hydrocarbons, C3-4, Petroleum gas contains less than 0,1 % w/w 1,3-butadiene (EINECS No 203-450-8)
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Hydrocarbons, C3-4, Petroleum gas contains less than 0,1 % w/w 1,3-butadiene (EINECS No 203-450-8) is not on the REACH Candidate List  
Hydrocarbons, C3-4, Petroleum gas contains less than 0,1 % w/w 1,3-butadiene (EINECS No 203-450-8) is not on the REACH Annex XIV List

#### 15.1.2. National regulations

Ensure all national/local regulations are observed



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### Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Indication of changes:

Section	Changed item	Change	Comments
All sections		Modified	

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
IARC	International Agency for Research on Cancer
LC50	Median lethal concentration
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
DPD	Dangerous Preparations Directive 1999/45/EC
DSD	Dangerous Substances Directive 67/548/EEC
EC50	Median effective concentration
SDS	Safety Data Sheet
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
STP	Sewage treatment plant
TLM	Median Tolerance Limit

Data sources	: REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.
Training advice	: Normal use of this product shall imply use in accordance with the instructions on the packaging. Follow advice on use, storage, maintenance and replacement.
Other information	: <b>DISCLAIMER OF LIABILITY</b> The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable. Ensure all national/local regulations are observed.

Full text of H- and EUH-statements:

Carc. Not classified	Carcinogenicity Not classified
Flam. Gas 1	Flammable gases, Category 1
Muta. Not classified	Germ cell mutagenicity Not classified
Press. Gas (Comp.)	Gases under pressure : Compressed gas
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated

SDS EU (REACH Annex II)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product