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BUTANE AND MIXTURES

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Specific risk: EXTREMELY FLAMMABLE
1. Product identification

Name Butane, Super butane, Butane-Propane mix
Nature LPG - liquefied petroleum gases
Presentation/Packaging Containers conform to existing regulation.

Type de récipients	Gas contained			
	Butane	Super butane	Mélange 70% But. 30% Prop.	Mélange 60% But. 40%Prop.
CYLINDERS				
Campingaz 901 -904 -907	X			
CARTRIDGES				
Campingaz GT 106 (90 g)		X		
Campingaz C 206 (190 g)	X or	X		
Campingaz CV 206 (190 g)		X		
Coleman 190 (190 g)		X		
Campingaz CT200		X		
Coleman C 100 (97 g)			X	
Coleman C 250 (220 g)			X	
Coleman C 500 (440 g)			X	
Campingaz CV 270 (230 g)	X or	X		
Campingaz CV270 Plus (230 g)	X or	X		
Campingaz CV300 Plus (240g)		X		
Campingaz CV 360 (52 g)		X		
Campingaz CV 470 (450 g)	X or	X		
Campingaz CV470 Plus (450 g)	X or	X		
Campingaz CG 1750 (170 g)			X	
Campingaz CG 3500 (350 g)			X	
Campingaz CP 250 (250 g)	X			
Campingaz El Greco CV470 (450g)	X			
Campingaz El Greco CV470 plus (450g)	X			
Taymar-Campingaz T 1750 (170 g)			X	
Taymar-Campingaz T 3500 (350 g)			X	
Taymar-Campingaz RF 80 (185 g)	X			
Taymar-Campingaz RF 89 (277 g)	X			
Taymar-Campingaz RF 90 (350 g)	X			
Coleman Max 300				X
Flama 190 (190 g)	X			

Supplier : APPLICATION DES GAZ,
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2. Composition/Information on components

Nature	Preparation
Description	<p>Hydrocarbon mixtures mainly containing butanes, butenes, propane and propane, odorised by mercaptan.</p> <ul style="list-style-type: none"> - Butane: composition in compliance with French decree of 03/09/79 - Super butane: mixture of butanes and propane (approx. 20%) - 70 % Butane-30% Propane mix: mixture of butanes, butenes and propane (approx. 30%) - 60% Butane-40% Propane mix: mixture of butanes, butenes and propane (approx. 30%)
N°CAS (substance)	685-12-91- 4
N°EINECS	270-990-9

3. Risk factors:

Butane and its mixtures are manufactured, stored, transported and distributed under pressure in liquefied form. In normal conditions, they remain in sealed systems up until their final destruction by combustion (use), and are therefore never handled directly.

The continual confinement of these gases is of utmost importance. Nevertheless, certain special precautions are recommended to prevent or deal with their accidental release into the atmosphere, i.e. a leak.

Physical and chemical properties	<p>extremely flammable</p> <p>In the event of a leak, as gas is heavier than air, it has a tendency, in the absence of ventilation, to accumulate at the lowest possible levels. The intense heating of a container can cause it to rupture, allowing the product to escape; the ignition of vapour can give rise to deflagration or explosion.</p>
Health hazards	<p>in gaseous state, breathing in highly concentrated vapours can cause drowsiness, intoxication, narcosis and in extreme cases, coma through the rarefaction of oxygen.</p> <p>In liquid state, it can cause cold burns. in particular in the event of projection</p>
Environmental hazards:	Inapplicable in normal use conditions.

4. First aid

In the event of serious accidents, call a doctor or request emergency medical assistance.

Inhalation:	<p>Symptoms are mainly: headache, dizziness, narcotic effect and loss of consciousness in case of asphyxiation:</p> <p>The subject should be taken outdoors and kept in a resting position. If suffering from respiratory difficulties or loss of consciousness, call a doctor immediately and administer respiratory assistance.</p>
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Skin
 Rinse thoroughly with cold water.
 Remove contaminated clothing and eventually: rings, watch, bracelet; leave in place if these objects and clothing stick to the skin.
 Try to heat slowly the parts reached.
 For the significant cases call a doctor immediately

Eyes
 Immediately flush eyes thoroughly with water for at least 10 min keep the eye protected and consult a specialist.

Inflammation of clothing: Hose down with water.

5. Fire-fighting measures

Flash point Inapplicable to Liquefied petroleum gas.

Extinguishing means:
 Recommended: powder, CO2, spraying with water in certain cases.
 Advised: hosing with a concentrated stream of water
 Ineffective: foam

Specifics dangers incomplete combustion creates toxic CO the inhalation of which is particularly hazardous.

Extinction. It is dangerous to put out a flame if the leak cannot be completely stopped.

Protection of stocks:
 As soon as a firebreaks out, evacuate all exposed flammable materials and LPG containers.
 Thoroughly cool by spraying with water all containers that cannot be evacuated. Do not hose down with a concentrated stream of water.

Container fire:
 If a container that is connected to an appliance catches fire, do not throw or turn it upside-down, as this can only exacerbate the problem (spilling of liquid gas or container rupture).
 Never tip a container on fire.
 Keep people away.

Try to close the valve, protecting your hands and forearms with a wet cloth. If possible, take the container outside without lying it down.

Protecting of rescuers
 Protect personnel with fire protective clothing, copious quantities of water spray or fireproof wall.
 Do not enter enclosed or confined space without proper protective equipment including self-contained breathing apparatus

6. Measures to be taken in case of accidental dispersion

Gas or liquid leak
 Avoid contact of the liquefied gas with the skin
 Do not stay in the vapour cloud (butane air mixtures). But Place you behind the source.

In case of leaks in a closed room
 Thoroughly air out the room
 Keep away from all sources of ignition; avoid all electrical switching.
 Block off allow-level openings in close proximity (vent holes, drain holes)
 Keep people away
 Call on specialised emergency assistance

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Container

If the leak cannot be stopped by closing the valve, take the container outdoor, avoiding any impact and dispose it in a safe area without turning it upside-down.

7. Handling and storage

Handling

Follow the instructions enclosed with the appliance and those indicated on the containers.
Always use in a well-ventilated area to allow for the evacuation of fumes and products of combustion (CO, CO2)
Do not smoke.
Use exclusively with suitable appliances (indication on containers).
Always use the containers in the upright position.
Close container after each use.
Odourisation allows a 0.5% gas content in the air to be detected
If the smell of gas is detected, search for the leak with soapy water before using the appliance. Never look for a leak with a naked flame.
Never refill an empty container.
Do not heat containers.

Storage

According to quantities product nature store, observe the regulations in force.
In large quantities, the storage can depend of the specific regulations.
Store in well ventilated are, away from all sources of heat and ignition.
Do not expose containers to a temperature exceeding 50°C/120°F.
Do not store below floor level (basement or cellar, for example).
Store away from low-level points where vapours can accumulate
Do not store in a vehicle (heating by the sun).
Avoid contact with strong oxidising agents and keep away from combustible materials.
Use exclusively containers or cartridges intended to butane and comply with regulation.
Use only electrical equipment adapted (explosion proof) in the danger zones.

8. Control of exposure personal protection

All works on installations of butane shall only be made by specially trained people and according adapted instructions.

Personal Protective Equipment

- Head protection: Use a helmet like for the operations of loading/unloading or storage.
- Eyes protection: Goggles or safety glasses, to protect eyes from exposure to liquid.
- Hands protection: Protective gloves against cold
- Skin protection: Clothing fireproofed and avoiding electrostatic charges

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9. Physical and chemical properties

Physical state	Liquid in the container, Gaseous at atmospheric pressure		
Colour	In gaseous state: Colourless In liquid state: Colourless		
Odour:	Characteristic		
Auto-ignition temperature	higher than 400°C		
Flammability limits lower:	approx. 1.5%	Upper: approx. 8.8%	
Flash point	Non applicable for Liquefied Petroleum Gases		

	Butane	Super butane	70% Butane- Propane Mix	60% Butane- Propane Mix
Boiling To under 1 atm. approx.	-5°C	-20°C	-25°C	- 26°C
Relative vapour pressure (bar)max. at 15°C approx	1.7	2.2	2.8	-
Relative vapour pressure (bar)max. at 50°C approx	6.9	7.5	8.3	9.5
Density (liquid at 50°C) kg/l	0.525	0.515	0.500	0.5 5
Density/air (T°= 15°C, P =1 atm) approx.	2.01	2	1. 95	1.8

Solubility	Slightly soluble in water
Butane evaporation	1L of liquide butane got up to atmospheric pressure generates a volume of vapor about 230 L.

1 litre de butane liquide mis à la pression atmosphérique engendre un volume de vapeur d'environ 230.

10. Stability-reactivity

Stability	Product stable in normal conditions of use
Decomposition product	No known decomposition products
Dangerous reaction	Explodes or catches fire when exposed to heat or a source of ignition. Combustion products include nitrogen, carbonic gas and water vapour. Carbon monoxide (toxic) is released during bad combustion.

11. Toxicology

Severe toxicity	Inapplicable. LPGs are kept in closed containers until their destruction by combustion. The greatest danger is the ignition of vapours in the air following an accidental leak. Breathing in highly concentrated vapours could result in drowsiness, intoxication or narcosis and, in extreme cases, coma. In the event of incomplete combustion, the ensuing release of carbon monoxide can cause dizziness, headaches, loss of muscular mobility and coma.
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12. Ecological information

As they evaporate instantly and are only slightly soluble in water, LPGs present no known environmental hazards. Gas accidentally released into the atmosphere is rapidly diluted and undergoes photochemical decomposition.

13. Elimination of waste:

As containers of LPGs always contain flammable vapours, never pierce or burn a cartridge, even when empty. Emptying a container from liquefied gas shall only be made by specially trained people and according adapted instructions.

Observe the regulations in force on waste for the disposal of empty cartridges.

Packaging materials CV 360, MAX 300 : aluminium
Other cartridges materials : steel sheet
Refillable cylinders : steel

14. Product transport

For transport of private use, respect the instructions written on the container, like do not store containers in a vehicle heat by the sun.

All containers meet the requirements of the transport regulations.
For transporting large quantities, follow the applicable safety regulations (road, sea, air).

ROAD: United Nations regulations (UN) - **ADR** - 2007

Product	N° ONU	Mixture	Designation	Class	Danger code	Hazard Class
Container	1965	A01	Liquefied petroleum gases	Class 2, 2F	23	2.1
Cartridges	2037	-	Small receptacles contain gas under pressure	Class2, 5F	23	2.1

RAIL: Convention concerning International Carriage by Rail (COTIF) - **RID**

Product	N° ONU	Designation	Class	Danger code	Hazard Class
Containers	1965	Liquefied petroleum gases	Class 2 , 2F	23	2.1
Cartridges	2037	Small receptacles contain gas under pressure	Class2, 5F	23	2.1

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SEA: International Maritime Dangerous Goods (OMI) **IMDG**

Product	N° ONU	Designation	Class	Danger label	Safety sheet N°	N° table GSMU
Containers	1965	Liquefied petroleum gases	Class 2.1	2.1	2-07	310
Cartridges	2037	Small receptacles contain gas under pressure	Class 2.1	2.1	2-07	620

Air: International Air Transport Association - **IATA**

Product	N° ONU	Designation	Class	Danger label	Passenger plane	Cargo plane
Containers	1965	Liquefied petroleum gases	Class 2.1	2.1	Limited	Limited
Cartridges	2037	Small receptacles contain gas under pressure	Class 2.1	2.1	Limited	Limited

15. Regulatory information:

Labelling

Dangerous preparation labelling Applicable to 1.4.97

Symbols: F+ : Extremely flammable
 Danger phrase R12 : Extremely flammable
 Security phrases S2 : Keep out of reach of children
 S9 : Keep container in a well-ventilated place
 S16 : Keep away from sources of ignition - No smoking

Domestic premises: refer to national regulations

Caravans: refer to national regulations

16. Additional information:

Use only for the applications and with the appliances indicated on the containers
 Before using this product for an experience or a new application, read carefully the instructions indicated on the container or the appliance, to know the compatibility and the safety rules.

The regulation data and advice given are there to help the consumer to follow his regulatory obligations and describe any precautions, which should be taken. But this prescription cannot be considered like exhaustive.
 The user has to ensure that national, international or local regulations are observed.

Safety data sheet established in application of EEC directive 91/155 .All information contained in this sheet is based on our knowledge. This data sheet supplements the instructions include with the product, but don't replace them.

Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting its use can be accepted.