

Annule et remplace :
Page :2, 8
Edition : 6.2
Date : 05/03/10

BUTANE AND MIXTURES

Saint Genis Laval
Edition : 6.3
Date : 26/03/10

Specific risk: EXTREMELY FLAMMABLE
1. Product identification

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

Container type	Gas contained			
	Butane	Super butane	Mixture 70% But. 30% Prop.	Mixture 60% But. 40%Prop.
Cylinders				
Campingaz 901 -904 -907	X			
Cartridges				
Campingaz GT 106 (90 g)		X		
Campingaz C 206 (190 g)	Or X	X		
Campingaz CV 206 (190 g)		X		
Coleman 190 (190 g)		X		
Coleman CV 100 (97 g)			X	
Coleman CV 250 (220 g)			X	
Coleman CV 500 (440 g)			X	
Campingaz CV 270 (230 g)	Or X	X		
Campingaz CV 270 Plus (230 g)	Or X	X		
Campingaz CV 300 Plus (240 g)		X		
Campingaz Theophilos (240 g)	X			
Campingaz CV 360 (52 g)		X		
Campingaz CV 470 (450 g)	Or X	X		
Campingaz CV 470 Plus (450 g)	Or X	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			
Instaflam 190	X			
Flama 190 (190 g)	X			

Supplier : APPLICATION DES GAZ,
Address : Route de Brignais, 69563 ST GENIS LAVAL FRANCE
Phone + 33 (0) 4 78 86 88 94
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Annule et remplace :
Page :2, 8
Edition : 6.2
Date : 05/03/10

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2. 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

extremely flammable

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.

Health hazards

in gaseous state, breathing in highly concentrated vapours can cause drowsiness, intoxication, narcosis and in extreme cases, coma through the rarefaction of oxygen.

In liquid state, it can cause cold burns. in particular in the event of projection

Labelling SGH :



Signal Word

Danger

Hazard Statement:

H220-Extremely flammable gas

Precautionary Statement:

P102- Keep out of reach of children.

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

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

P381- Eliminate all ignition sources if safe to do so.

P403- Store in a well-ventilated place.

3. Composition/Information on components

Nature

Preparation

Description

Hydrocarbon mixtures mainly containing butanes, butenes, propane and propane, odorised by mercaptan.

- 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)

68512-91- 4

N°EC / EINECS

270-990-9

Annule et remplace :
Page :2, 8
Edition : 6.2
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4. First aid

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

Inhalation:	Symptoms are mainly: headache, dizziness, narcotic effect and loss of consciousness in case of asphyxiation: 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.
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	lower than -50°C
Extinguishing means:	Recommended: powder, CO ₂ , 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

Annule et remplace :
Page :2, 8
Edition : 6.2
Date : 05/03/10

BUTANE AND MIXTURES

Saint Genis Laval
Edition : 6.3
Date : 26/03/10

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
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, CO ₂) Do not smoke. Use exclusively with suitable appliances (indication on containers). Always use the containers in the upright position. Close container after each use. Odorisation 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.

Annule et remplace :
Page :2, 8
Edition : 6.2
Date : 05/03/10

BUTANE AND MIXTURES

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Edition : 6.3
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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

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 lower than -50°C

	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 min.	0.525	0.515	0.50 0	0.55
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.

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.

Annule et remplace :
Page :2, 8
Edition : 6.2
Date : 05/03/10

BUTANE AND MIXTURES

Saint Genis Laval
Edition : 6.3
Date : 26/03/10

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.

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** - 2009

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

Annule et remplace :
Page :2, 8
Edition : 6.2
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RAIL: Convention concerning International Carriage by Rail (COTIF) - **RID**

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

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

Product	N°ONU	Designation	Class	Danger label	Safety sheet N°	N°table GSMU
Cylinders	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
Cylinders	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

Annule et remplace :
Page :2, 8
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15. Regulatory information:**Labelling according directive EEC**

Dangerous preparation labelling

Symbols:
Danger phrase
Security phrases

F+: Extremely flammable.
R12: Extremely flammable.
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

Labelling SGH :

Signal Word
Danger

Hazard Statement:
H220-Extremely flammable gas

Precautionary Statement:
P102- Keep out of reach of children.
P210-Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P377- Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381- Eliminate all ignition sources if safe to do so.
P403- Store in a well-ventilated place.

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 Authorisation and Restriction of Chemicals (REACH)
European Regulation EC N°1907/2006. 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.