

EC-Safety Data Sheet
n-BUTANE

Date:

Page: 1/4

1 Substance/Preparations- and Firm name

Product name	n-Butane, under pressure liquefies
Chemical notation	C4H10
Manufacturer	
EMERGENCY CALL NUMBER	

2 Composition / Data to components

Material/preparation	Material
Composition/information about components	Other components or impurities, those does not contain the classification of this product affects
CAS-No.	00106-97-8
EG-No.	203-448-7

3 Possible dangers

Danger notice	- Liquefied gas - High-inflammatory - Contact with the liquid can cause cold burns / frostbites
---------------	---

4 First-aid

Breathing	High concentrations can cause a suffocating. Symptom can be loss of motivity and consciousness. The victim does not notice suffocating. Narcotic effects can develop. Symptom can be feeling of dizziness, headache, nausea and coordination disturbances. The victim is to be brought under use of an circulating air-independent oxygen mask into fresh air. Keep warm and calm. Call a doctor. With respiratory arrest artificial respiration.
Striking and eye contact	With contact with the liquid: Rinse at least 15 minutes with water. Call a doctor.
Swallowing	Swallowing is not considered as possible way of exposition.

5 Measure for fire fighting

Special risks	Effect of fire can cause a bursting / an exploding of the container
Dangerous products of combustion	From imperfect burn Carbon monoxide can result
Appropriate medium for fire fighting	All known mediums for fire fighting may be used.
Special methods	Stop gas outflow if possible. Remove containers or cool with water from protected position. Extinguish leaking out burning gas only if it is absolutely necessary. A spontaneous re-inflammation like an explosion is possible. Extinguish every other fire.
Special protection for fire brigade	In closed rooms use breathing apparatus

EC-Safety Data Sheet n-BUTANE

Date:

Page: 2/4

6 Unintentional release

Personal protective proceeding	Use breathing apparatus when entering the range, if the harmlessness of the atmosphere is not proven. Vacate area. Provide for sufficient ventilation. Eliminate ignition sources.
Environment protective proceeding	Attempts to stop the gas outflow. Prevent penetrate in drains, cellar, inspection pits or other places, at which the accumulation could be dangerous
Cleaning method	Ventilate the area . Evacuate persons from the area and keep away ignition sources, until the entire run out liquid evaporated (floor is free from frost)

7 Handling and storing

Handling	Ground equipment reliably. Prevent penetrate from water into the gas tank. Rinse equipment before introducing gas air-free. Prevent back flow into the gas tank. Use only such equipment , which is suitable for this product and the intended pressure and temperature. Consult the gas supplier in the case of doubt. Keep away from ignition sources, including electrostatic unloadings. Consider operating instructions of the gas supplier.
Storing	Secure bottles before falling down. Consider boiler law BGBI. 211/1992 in valid version. With the storage keep away from oxidizing gases and other fire-promoting materials. Store containers with less than 50°C at a well ventilated place.

8 Limit of exposition and personal protection equipment

MAK	800 ppm
Personal protection proceeding	Guarantee appropriate ventilation. Do not smoke while handling the product. Use suitable protection shoes and working gloves while handling gas bottles

9 Physical and chemical characteristics

Molar mass	58
Melting point	-138°C
Boiling point	-0,5 °C
Critical temperature	152 °C
Relative density, gaseous (air=1)	2,1
Relative density, liquid (water=1)	0,6
Steam pressure at 20 °C	2 bar
Solubility in water (mg/l)	88
Appearance	colorless gas
Smell	Sweetish. Small warning effect with low concentrations. Mostly odorizer added.
Inflammation point	365 °C
Explosibility limit (Vol.% in air)	1,5-8,5
Other data	Gas/steams are heavier than air. They can collect in closed areas, in particular at the floor or in deep-convenient ranges.

EC-Safety Data Sheet n-BUTANE

Date:

Page: 3/4

10 Stability and reactivity

Avoiding materials

A combustible mixture can form with air. Can react violently with fire-promoting materials.

11 Toxicologic informations

General

Toxic effects of the product are not known

12 Ecologic informations

General

There are not known harmful effects of the product to the environment.

13 Disposal

General

Do not discharge at places, where the risk of the combustible gas mixture exists. Burn up not used gas with a suitable burner with flame trap. Don't leak out in drains, cellar, inspection pits and similar places, at which the accumulation of the gas could become dangerous. Further inquiry at the gas supplier, if a consultation is necessary.

14 Transport

UN-number

1011

GGST/ADR/RID

Class 2, Fig. 2F

ADR/RID danger number

23

Designation with ADR

Danger ticket 3: combustible gas

Further transportation information

Do not transport if possible in vehicles, whose loading space is not separate from the operator's cab. The driver must know the possible dangers of the charge and he must know, what is to be done with an accident or an emergency. Secure gas bottles before transport. The valve for gas bottles must be closed and tight. The valve locking nut or the plug (so far available) must be correctly fastened. The valve protection device (so far available) must be correctly fastened. Guarantee sufficient ventilation. Observe valid regulations.

15 Regulations

Number in the annex I of the guardlines 67/548

601-004-00-0

EG-Classification

F+; R12

Symbol

F+; high-inflammatory

R-principles

12

S-principles

9-16-33

Designation of gas bottles
- Symbol

Road transport symbols, R and S of principles selected according to the stricter product classification according to EEC or the international transportation regulations:
Danger note 3: combustible gas

EC-Safety Data Sheet
n-BUTANE

Date:

Page: 4/4

Notice for special risks

R12 high-inflammatory.

Security council impacts

S9 Keep containers at a well ventilated place
S16 Keep away from ignition sources - no smoking
S33 Make measures against electrostatic loadings

Regulation information

Kesselgesetz BGBl. 211/1992 in valid version
Chemikaliengesetz (ChemG) BGBl. 326/1987 in valid version**16 Other data**

Observe all national/local regulations. It is to be guaranteed that the workers consider the fire risk. The risk of suffocating is often ignored and must be particularly emphasized with the instruction of the workers. Before the product in any new process or attempt is used, a careful study should be accomplished over the material compatibility and security. The data are not contractual warranties of product properties. They rely on the today's conditions of the knowledge.

Further information

Kühn-Birett: Instruction cards dangerous working materials sheet B 37