BIOGON® food grade gases.
BIOGON® O liquid (E 948). Liquid oxygen, O_2.

Application

Within the food industry, oxygen gas is primarily used in MAPAX® packaging of food in a modified atmosphere. This normally consists of one or several of the following gases; oxygen, nitrogen and/or carbon dioxide. 1 Nm^3 = 1,148 litres oxygen gas is used during the packaging of fruit and vegetables in order to ensure that the product continues to breathe, which enables the product's freshness to be maintained. Oxygen gas is used in conjunction with the packaging of fresh red meat in order to maintain the meat's red colour. The meat's colour changes from red to brown or grey when there is not a sufficiently high concentration of oxygen gas. This is due to a change in the myoglobin complex that normally binds oxygen.

Product specification

BIOGON® O liquid (E 948). Liquid oxygen, O_2

Product name	Purities vol %	Impurities unit ppm		Odour, taste	Material number*
	O_2	H_2O	CnHm**		
BIOGON® O liquid	≥ 99,5	≤ 20	≤ 100	none	

*Differs between countries, see local language version.

**Calculated as methane.

All BIOGON® products comply with the requirements in European food legislation. This includes, among others, the European regulation (EC) no. 852/2004, regulation (EC) no. 178/2002, regulation (EC) no. 1333/2008 and regulation (EC) 231/2012. The gases inin the BIOGON® product group do not contain any allergens. No genetically modified organisms (GMO) are used in the manufacturing process for BIOGON® gases.

Characteristics and origin

Liquid oxygen is a weak blue liquid that is somewhat heavier than water. Gaseous oxygen is a colourless, tasteless and odourless gas. Oxygen in itself is not flammable, although it does support combustion. Atmospheric air contains 20,94 vol. % oxygen, and oxygen is around 1,1 times heavier than air. Oxygen is easily dissolved in both water and alcohol. It is strongly oxidising and reacts powerfully with flammable substances in the event of heat formation, ignition or explosion. Oxygen forms compounds (in the form of oxides) with almost all chemical elements, with the exception of halogens, noble gases and noble metals. The oxidation process is followed by the emission of heat and light, and many reactions require the presence of water or are accelerated by a catalyst. Liquid oxygen is extracted from air via distillation in an air separation system.

Physical data

Type of gas and symbol	Oxygen, O_2		
Boiling point	–183 °C		
Heat of vaporisation, 1 bar	213 kJ/kg		
Heat capacity (15 °C)	0,92 kJ/kg K		
Conversion factors	1 Nm^3	= 1,148 l	= 1,311 kg
	1 l	= 0,871 Nm^3	= 1,142 kg
	1 kg	= 0,763 Nm^3	= 0,876 l
Critical values	Critical temperature		-118,6 °C
	Critical pressure		50,4 bar
	Critical density		0,436 kg/l

1 Nm^3 = 1 m^3 at 15 °C, 1 atm (technical atmosphere). The litre designation is used for gas in the liquid phase.

Safety

Our goal is to maintain a high level of safety and protection, both for employees and the environment. Please read our safety data sheets (available at our web sites) before you use the product.

Delivery form

Cooled liquid.

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