SOL KOHLENSÄURE

Material data sheet CO_2 (food grade)

item No.: 200804

Purity

≥ 99,5 vol.%

Impurities:

CO	<	10 ppm (v/v)
oil	<	5 ppm (w/w)

Acid test according to JECFA: negative

P and H2, other reducing agents according to JECFA: negative

Safety data sheet:

EG-safety data sheet according to TRGS 220 (available on request)

Conversion factors:

	m^3 gas (1 bar und 15 ºC)	Volume liquid [l] @ triple point *)	Mass [kg] @ triple point *)
1 m^3	1	1,568	1,847
1 l	0,637	1	1,178
1 kg	0,541	0,849	1

*) triple point: 5,18 bar and –56,6 °C

Formula:

CO_2

Properties:

- colourless, cryogenic liquefied gas
- non-combustible
- heavier than air, evaporates rapidly during relaxation
- forms CO2 snow
- at ambient pressure: only solid (dry ice) or in gaseous state
- cryogenic dry ice (- 78,5 º C) can cause frostbite
- cryogenic dry ice sublimes with increasing temperature
- not toxic, but effect e.g. on heart rhythm and respiratory rate
- concentration above 8-10 vol.% can be fatal

Physical and chemical properties:

appearance:	colourless; dry ice: white
odour:	odourless
molecular weight:	44,01 g/mol
physical state @ 20 °C:	gaseous
triple point:	- 56,5 º C @ 5,18 bar
sublimation temperature @ ambient pressure	- 78,5 º C
the critical temperature:	31 º C
the critical pressure:	73,8 bar
density in liquid state (-37,22 º C, 11,146 bar):	1101,1 kg/m^3
density in gaseous state (15 º C, 1 bar):	1,85 kg/m^3
relative gaseous density (air=1):	1,53
solubility in water @ 20 º C and 1 bar:	1500 mg/l

Industrial applications:

Liquid CO2 is used mainly to cool or to frost foodstuffs. CO2 (food grade) corresponds to the quality of the E290 directive 231/2012/EC for food additives.