Specifications for liquid CO2 supplied to Karbonwerke.

To ensure the non-corrosivity of the supplied CO_2 for injection into transport and sequestration infrastructure, below listed components must be within the provided limits. Other detected components above 1 ppmmol need to be reported to Karbonwerke. CO2 shall be loaded as single-phase liquid with vapour return between 13-15 bar(g) and -30,5 ˚C and -26.5 ˚C, and with a density below 1,100 kg/m^3.

Liquid CO2 Specification Limits:

Component	Constraint	Unit	Transport & Sequestration	ISBT[1]
Water (H_2O)	less than	ppmmol	30	20
Carbon Monoxide (CO)	less than	ppmmol	1200	10
Hydrogen (H_2)	less than	ppmmol	500	-
Oxygen (O_2)	less than	ppmmol	10	30
Nitrogen Oxides (NO_x)	sum less than	ppmmol	1.5	5
Sulfur Oxides (SO_x)	sum less than	ppmmol	10	1
Hydrogen Sulfide (H_2S)	less than	ppmmol	5	0.1
Methanol	less than	ppmmol	40	10
Ethanol	less than	ppmmol	20	-
Formaldehyde	less than	ppmmol	10	-
Acetaldehyde	less than	ppmmol	10	0.2
Ammonia (NH_3)	less than	ppmmol	10	2.5
Amine	less than	ppmmol	10	-
Total Volatile Organic Compounds (excl. Methanol, Ethanol & Aldehydes)	sum less than	ppmmol	10	50
Mercury (Hg)	less than	ppbmol	30	-
Cadmium (Cd) + Thalium (Tl)	sum less than	ppbmol	30	-
Solids removal cut-off diameter	Less than	micron	1	-

[1]Beverage grade CO2 specifications from the International Society of Beverage Technologists Carbon Dioxide Guidelines (ISBT).