

## Annex D (informative)

### Data from Table 1 given in alternative units

Table D.1 contains alternative units that the gas industry is more familiar with.

**Table D.1 — Quality requirements for hydrogen in rededicated gas networks in alternative units**

Parameter	Unit	Value	Reference standards for test methods (informative)
Hydrogen	mol-%	≥ 98	DIN 51894
Wobbe Index	MJ/m <sup>3</sup> (15 °C/15 °C)	42,0 – 46,0	
The content and composition of the further quality parameter (e.g. sum of inerts) shall satisfy the Wobbe Index value above.			
Water	mg/m <sup>3</sup>	≤ 200 ≤ 50 <sup>a</sup>	ISO 21087
Hydrocarbon dew point (HCDP) <sup>b</sup>	°C	< -2 °C at 1 < p < 70 bar	ISO 21087
Sum of inerts (N <sub>2</sub> , He, Ar)	mol-%	≤ 2	ISO 21087
Gaseous hydrocarbons <sup>b</sup>	mol-%	≤ 2	ISO 21087
Oxygen (O <sub>2</sub> ) <sup>c</sup>	mol-% μmol/mol	≤ 0,1 <sup>d</sup> ≤ 10	ISO 21087
Carbon monoxide	μmol/mol	≤ 20	ISO 21087
Carbon dioxide	μmol/mol	≤ 20	ISO 21087
Total sulfur <sup>b</sup>	mg/m <sup>3</sup>	≤ 10 <sup>e</sup>	ISO 21087
Ammonia	mg/m <sup>3</sup>	≤ 10	ISO 21087
Halogenated compounds	mg/m <sup>3</sup>	≤ 0,08	ISO 21087
max. particulate concentration <sup>b</sup>	mg/kg	technically free	ISO 21087
Contaminants	The gas shall not contain constituents other than listed in this table at levels that prevent its transportation, storage and/or utilization without quality adjustment of treatment.		ISO 21087
<sup>a</sup> 200 μmol/mol at MOP less or equal to 10 bar, 50 μmol/mol at MOP over 10 bar. <sup>b</sup> These components most likely have their source in the previous use of the pipework. <sup>c</sup> Rolling 24 h average. <sup>d</sup> Max. 0,1 mol-% in grids with no exit point to UGS or to sensitive customers, otherwise max. 10 μmol/mol. <sup>e</sup> Non-odorised hydrogen.			

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