Engineering Data

Properties of Industrial Gases

Name *Name*		Chem. Formel *Molecular formula*	Kurzbezeichnung *common name*	Molare Masse *Molecular mass* M kg/kmol	Gaskonstante *Gas constant* R J/kg•K	Isentropenexponent $k^{1)}$ bei 1013,25 mbar und 0°C *Isotropic exponent at 1013,25 mbar and 32 °F*	Spez. Volumen bei 1013,25 mbar und 0°C *Specific volume at 1013,25 mbar and 32 °F* m^3/kg
Aceton/*Acetone*		C_3H_6O		58,1	143,2	1,13	
Acetylen/*Acetylene*		C_2H_2		26,0	319,3	1,23[3)]	0,853
Aethan/*Ethane*		C_2H_6		30,1	276,5	1,20[3)]	0,737
Aether (Diäthyläther) *Ether (Diethyl ether)*		$C_4H_{10}O$		74,1	112,2	1,08	
Aethylalkohol (Aethanol)/*Ethanol*		C_2H_6O		46,1	180,5	1,13	0,490
Aethylamin/*Ethylamine*		C_2H_7N		45,1	184,4		0,497
Aethylchlorid (Chloräthan)/*Ethyl chloride*		C_2H_5Cl	R 160	64,5	128,9	1,16	0,555
Aethylen/*Ethylene*		C_2H_4		28,1	296,4	1,25[3)]	0,794
Aethylenoxid (Acetaldehyd) *Ethylene oxide*		C_2H_4O		44,1	188,7		
Ammoniak/*Ammonia*		NH_3	R 717	17,0	488,2	1,31[2,3)]	1,297
Argon/*Argon*		Ar		39,9	208,1	1,65[3)]	0,561
Arsenwasserstoff/*Arsenic hydride*		AsH_3		77,9	106,7		0,287
Benzol/*Benzene*		C_6H_6		78,1	106,4	1,12	0,287
Bromchlordifluormethan *Bromine chloride difluoromethane*		$CBrClF_2$	R 12 B1	165,4	50,3	1,08[4)]	
Bromtrifluormethan *Fluorotribromomethane*		CBr_3F	R 13 B1	148,9	55,8	1,143[4)]	
Bromwasserstoff/*Hydrobromic acid*		HBr		80,9	102,7		0,274
Butan-n/*Butane (n)*		C_4H_{10}		58,1	143,0	1,09[3)]	0,370
Butan-i (Isobutan)/*Isobutane*		C_4H_{10}		58,1	143,0	1,09[3)]	0,375
Butylen/*Butalene*		C_4H_8		56,1	148,2	1,20	0,340
Chlor/*Chlorine*		Cl_2		70,9	117,3	1,34[3)]	0,311
Chlordifluormethan/*Chlorodifluoromethan*		$CHClF_2$	R 22	86,5	96,2	1,178[4)]	0,240
Chloroform/*Chloroform*		$CHCl_3$		119,4	69,6		0,189
Chlortrifluormethan/*Chlorotrifluoromethan*	7)	CF_3Cl	R 13[7)]	104,5	79,6	1,17	
Chlorwasserstoff/*Hydrochloric acid*		HCl		36,5	228,0	1,39	0,610
Cyanwasserstoff/*Hydrogen cyanide*		HCN		27,0	307,6		
Dichloräthan (1,2)/*Dichloroethane*		$C_2H_4Cl_2$		99,0	84,0		
Dichloräthylen (1,2)/*Dichloroethylene*		$C_2H_2Cl_2$	R 1130	96,9	85,8		
Dichlorfluormethan *Dichlorofluoromethane*		$CHFCl_2$	R 21	102,9	80,8	1,17	
Dichlortetrafluoräthan (1,2) *Dichlorotrifluoroethane*	7)	$C_2Cl_2F_4$	R 114[7)]	170,9	4836	1,084[4)]	
Dicyan (Cyan)/*Cyanogen*		C_2N_2		52,0	159,8		0,428
Difluordichlormethan *Difluorodichloromethane*	7)	CF_2Cl_2	R 12[7)]	120,9	68,8	1,13	0,182
Diflourethan (1,1)/*Diflouroethane*		CH_3CHF_2	R 152 a	66,0	126,0	1,129[4)]	
Diflourmethan/*Diflouromethane*		CH_2F_2	R 32	52,0	159,9	1,237[4)]	
Diphenyl/*Diphenyl*		$C_{12}H_{10}$		154,2	53,9		
Diphenyloxid/*Diphenyl ether*		$C_{12}H_{10}O$		170,2	48,8		
Diphyl/*Diphyl*				165,8	50,2	1,05	0,263
Generatorgas/*Generator gas*				25,3	354,0	1,39	0,885
Helium/*Helium*		He		4,0	2077,2	1,63[3)]	5,587
Hexan/*Hexane*		C_6H_{14}		86,2	96,5	1,06	0,254
Jodwasserstoff/*Hydrogen iodide*		HJ		127,9	65,0		0,173
Kältemittel 22/115 (48.8/51.2%) *Refrigerant*		$CHClF_2$ C_2ClF_5	R 502	112,0	74,2	1,135[4)]	
Kältemittel 125/143 a/134 a *Refrigerant*			R 404 a	97,6	85,2	1,114[4)]	
Kohlendioxid/*Carbone dioxide*		CO_2		44,0	188,9	1,30[2,3)]	0,506
Kohlenoxid/*Carbone monoxide*		CO		28,0	296,8	1,40[3)]	0,800
Kohlenoxidsulfid/*Carbonyl sulfide*		COS		60,1	138,4		0,368
Koksofengas/*Coke oven gas*				11,9	701,0	1,34	1,852
Krypton/*Krypton*		Kr		83,7	99,3	1,65	0,267
Luft/*Air*				29,0	287,1	1,40[2,3)]	0,773