

Gas Properties - Carbon Monoxide

Gas Name	Chemical Formula	Chemical Family
Carbon Monoxide	со	Non-Metal Oxide Gas
Synonym(s)	Carbonic Oxide, Carbon Oxide	

Molecular Weight	Critical Pressure (psia)	Critical Temperature (R)	Ratio of Specific Heats	
28.010	515	242	1.404	
Physical Characteristics		Solubility		
Colorless gas with metallic taste and odor		Practically insoluble in water. Soluble in organic solvents containing Benzene		

Applications or Uses

Fuel. Metallurgy. Chemical Processes. Synthesis Processes.

Hazards

Extremely Toxic. Asphyxiant. Extremely Flammable.

Material Requirements

Incompatible with strong oxidizers (Chlorine, Bromine...). At temperatures above 900 F, cast iron is attacked by CO. Nickel and Cobalt should be avoided due to corrosion. Natural rubber and neoprene are chemically attacked by CO.

Lubrication

Standard lubricating practice recommended for pressures up to 2000 psig. Non-lube applications should be avoided (see notes below).

Comments

Due to toxicity of gas, purged packing is always required. Two compartment distance pieces are highly recommended, or long single compartment with a nitrogen buffered packing and purged distance piece. Limit discharge temperature to 255 F(121 C) if possible.

Non-lubricated applications should be avoided. Cylinders tend to develop "hot spots" which result in Carbon Monoxide Dissociation. Hard carbon deposits my be formed and CO2 produced. Limit discharge temperatures to 225 F (107 C). Ariel does not quote carbon monoxide applications non-lubricated.