



Liquid Argon, Process Quality



Application

The process quality of liquid argon is mainly used within heat treatment and welding of metal, where great demands on the process-quality are made. As argon is a rare gas it is very stable, which makes it ideal for processes, where the temperature is very high. It is often in connection with equipment, which is going to be used in the food industry or in the pharmaceutical industry, that this very pure quality is used for welding. When laser cutting titanium the high purity argon is necessary to achieve a satisfactory result.

Physical properties

Liquid argon is a colourless liquid. In gaseous form, it is colourless, tasteless as well as odourless. Argon is neither flammable nor does it support combustion. Atmospheric air contains 0,934 vol. % argon and argon gas is approx. 1,4 times as heavy as air and is easily soluble in water. Argon forms part of the group of rare gasses together with helium, neon, krypton, xenon, which are all characterized by their extreme small reactivity with other substances. Argon does not form part of any known chemical combination. Argon is the most common of the rare gases. Atmospheric air is the only known source for production of pure argon. Liquid argon is produced from air via distillation in an air separation system.

Specification

Material No. 101909. Product name: Liquid Argon, Process Quality

Purity	Impurities
Argon (Ar) ≥ 99,996 vol. %	Oxygen (O ₂) ≤ 5 ppm
	Water (H ₂ O) ≤ 5 ppm
	Hydrocarbons (C _n H _m) ≤ 1 ppm

The specifications are exclusively valid for deliveries in pressure tanks.

Physical data

Gas type	Boiling point	Latent heat of vaporization	Specific heat capacity (15 °C)
Argon, Ar, LAR	-186 °C	164 kJ/kg	0,52 kJ/kg K

Conversion factors

1 nm³ = 1,168 litre = 1,637 kg
 1 litre = 0,856 nm³ = 1,401 kg
 1 kg = 0,611 nm³ = 0,714 litre
 1 nm³ = 1 m³ at 15 °C and 0,98 KPa.

Critical values

Critical temperature -122,3 °C
 Critical pressure 49,0 bar
 Critical density 0,536 kg/l
The litre-designation is used for gas in its liquid phase.

Linde Gas
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