

## Argon (Ar), Liquid

Non-toxic, colourless, odourless and tasteless liquid.

### Hazards

- Extremely cold, cryogenic liquid
- Asphyxiant in high concentrations.

### Classifications

Gas	Purity
Argon industrial	97,5%
Argon technical	99,99%

Higher grades and purities of this product are available from Afrox on request

### Supply

Details of a wide range of storage vessels and ancillary equipment are available from Afrox on request.

### Physical Data

Appearance/odour	Colourless and odourless
Molecular weight	39,948
Specific volume at 21,1 °C and 101,325 kPa	603,7 m <sup>3</sup> /g
Boiling point at 101,325 kPa	-185,9 °C
Critical temperature	-122,29 °C
Relative density (air = 1) at 1 atm and 0 °C	1,380
Absolute density of gas at 101,325 kPa and 0 °C	1,7841 kg/m <sup>3</sup>
Flammability	N/A

### Uses and Features

- Liquid argon is used in GMAW process of aluminium and the GTAW process of most metals including steel, stainless steel, nickel and copper
- Plasma jet torches, utilising an argon-hydrogen mixture, are used for cutting operations and for coating metals with refractory materials. The high temperature preparation, refining and fabrication of many materials must be carried out in an argon (or helium) atmosphere. Most of the high-purity single crystals used for semi-conducting devices are grown in an argon atmosphere. In doping semiconductors with controlled amounts of impurities, the latter are frequently introduced in a stream of argon.

### Precautions in Use

- Use only approved temperature and pressure rated equipment
- Do not trap liquid between closed valves
- Wear face shield, use leather protective gloves and overalls when handling low temperature equipment

- Keep self-contained full face positive pressure breathing apparatus nearby, in the event of accidental spillage
- Use only in well ventilated areas
- Refer to MSDS for more information.

### Material Compatibility

- Liquid argon is non-corrosive and so many common metals are acceptable, provided equipment is designed to withstand process pressure and temperature. At cryogenic temperatures, the risk of materials becoming brittle has to be given expert consideration. Please refer to Afrox for advice relative to your specific application.

The information contained or otherwise referenced herein is presented only as typical without guarantee or warranty, and Afrox expressly disclaims any liability incurred from any reliance therein. No data is to be construed as recommended for any welding condition or technique not controlled by Afrox.

For more information contact the Afrox Customer Service Centre Tel: 0860 02 02 02  
E-mail: [customer.service@afrox.linde.com](mailto:customer.service@afrox.linde.com) Website: [www.afrox.com](http://www.afrox.com)