

PURE GASES

AMMONIA NH₃

General Characteristics: A colorless, non-flammable and liquefied gas with a strong smell.

Health Hazards: Toxic. Highly irritating to the mucous membranes and eyes. Contact with the skin causes severe burns.

| GAS GRADE/PURITY SPEC. | CYLINDER SIZE | CONTENTS | EQUIPMENT RECOMMENDATIONS |
|--|---------------|----------|--|
| ANHYDROUS Min. Purity 99.99% (Liquid phase) | 800 LP | 400 kg | Stainless-steel high purity single-stage regulator, refer to page 142 |
| | 100 LP | 50 kg | |
| | 044 | 22.7 kg | Stainless-steel lecture bottle regulator, refer to page 147 |
| | 016 | 6.8 kg | |
| | 010 | 5.0 kg | |
| LB | 170 g | | |

TECHNICAL INFORMATION

| | | | |
|-----------------------|--------------------------|-------------------------------|--------------------------------------|
| Molecular Weight..... | 17.031 | Dot Name..... | Ammonia, Anhydrous, Liquefied |
| Specific Volume..... | 22.6CF/lb | UN No..... | UN1005 |
| Fire Potential..... | 15 - 28% in Air | Dot Class..... | 2.2 |
| TLV-TWA..... | 25 ppm (ACGIH 1991-1992) | Dot Label..... | Non-flammable Gas, Inhalation Hazard |
| CGA Valve..... | 705 | Cas Registry..... | 7664-41-7 |
| LB..... | 110 | Cylinder Pressure @ 70°F..... | 114 psig |

For Bright® (6N5), ULSI (6N), VLSI (5N5) and Electronic (5N) grades ammonia, see Electronic Gas section page 63 and 64.

ARGON Ar

General Characteristics: A colorless, non-flammable and odorless gas.

Health Hazards: A simple asphyxiant.

| GAS GRADE/PURITY SPEC. | CYLINDER SIZE | CONTENTS | EQUIPMENT RECOMMENDATIONS |
|--|--------------------|---------------------|--|
| ULTRA HIGH PURITY Min. Purity 99.999% O ₂ < 3 ppm, H ₂ O < 2 ppm, N ₂ < 5 ppm | 051 HP (200 bar) | 10.7 m ³ | Double-stage high purity regulator, refer to page 134 |
| | 049 | 7.1 m ³ | |
| | 044 | 6.4 m ³ | High purity lecture bottle regulator, refer to page 146 |
| | 016 | 2.3 m ³ | |
| | 010 | 1.5 m ³ | |
| LB | 57 L | | |
| HIGH PURITY Min. Purity 99.995% O ₂ < 10 ppm, H ₂ O < 10 ppm, N ₂ < 15 ppm | 051 HP (200 bar) | 10.7 m ³ | |
| | 049 | 7.1 m ³ | |
| | 044 | 6.4 m ³ | |
| | 016 | 2.3 m ³ | |
| 010 | 1.5 m ³ | | |
| EXTRA HIGH PRESSURE Min. Purity 99.999% O ₂ < 3 ppm, H ₂ O < 2 ppm, N ₂ < 5 ppm | 6K (400 bar) | 16 m ³ | Piston regulator, refer to page 145 |

TECHNICAL INFORMATION

| | | | |
|-----------------------|-----------------------|-------------------|-------------------|
| Molecular Weight..... | 39.95 | Dot Name..... | Argon, Compressed |
| Specific Volume..... | 9.7CF/lb | UN No..... | UN1006 |
| Fire Potential..... | Non-flammable | Dot Class..... | 2.2 |
| TLV-TWA..... | None established | Dot Label..... | Non-flammable Gas |
| CGA Valve..... | 580, 3HP-677, 2HP-680 | Cas Registry..... | 7440-37-1 |
| LB..... | 180 | | |

For ULSI (6N) and VLSI (5N5) grades argon, see Electronic Gas section page 65.