

PURE GASES

1,3-BUTADIENE C₄H₆

General Characteristics: A colorless, flammable, liquefied and odorous gas. Can form peroxide in the presence of air. Contains inhibitors to prevent polymerization.

Health Hazards: Suspected carcinogen, irritant and anesthetic at high concentrations.

| GAS GRADE/PURITY SPEC. | CYLINDER SIZE | CONTENTS | EQUIPMENT RECOMMENDATIONS |
|--|-----------------------|----------------------------|--|
| C.P. Min. Purity 99.0% (Liquid Phase) | 110 LP 18 LP LB | 61.3 kg 7.7 kg 170 g | Single-stage high purity regulator, refer to page 140 High purity lecture bottle regulator, refer to page 146 |

TECHNICAL INFORMATION

| | | | |
|-----------------------|--------------------------|-------------------------------|----------------------|
| Molecular Weight..... | 54.09 | Dot Name..... | Butadiene, Inhibited |
| Specific Volume..... | 6.9CF/lb | UN No..... | UN1010 |
| Fire Potential..... | 2.0 - 12.0% in Air | Dot Class..... | 2.1 |
| TLV-TWA..... | 10 ppm (ACGIH 1991-1992) | Dot Label..... | Flammable Gas |
| CGA Valve..... | 510 | Cas Registry..... | 106-99-0 |
| LB..... | 180 | Cylinder Pressure @ 70°F..... | 22 psig |

N-BUTANE C₄H₁₀

General Characteristics: A colorless, flammable and liquefied gas with a faint odor.

Health Hazards: Relatively non-toxic anesthetic in high concentrations.

| GAS GRADE/PURITY SPEC. | CYLINDER SIZE | CONTENTS | EQUIPMENT RECOMMENDATIONS |
|---|------------------------------|--------------------------------------|--|
| RESEARCH Min. Purity 99.95% | 18 LP LB | 7.0 kg 170 g | Single-stage high purity regulator, refer to page 140 |
| INSTRUMENTAL Min. Purity 99.5% (Liquid Phase) | 110 LP 18 LP LB | 54.4 kg 7.0 kg 170 g | High purity lecture bottle regulator, refer to page 146 |
| C.P. Min. Purity 99.0% Provided with Educator Tube for Liquid With- drawal on Request | 454 110 LP 18 LP LB | 232 kg 54.4 kg 7.0 kg 170 g | |

TECHNICAL INFORMATION

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|-----------------------|---------------------------|-------------------------------|---------------|
| Molecular Weight..... | 58.12 | Dot Name..... | Butane Gas |
| Specific Volume..... | 6.4CF/lb | UN No..... | UN1011 |
| Fire Potential..... | 1.8 - 8.4% in Air | Dot Class..... | 2.1 |
| TLV-TWA..... | 800 ppm (ACGIH 1991-1992) | Dot Label..... | Flammable Gas |
| CGA Valve..... | 510 | Cas Registry..... | 106-97-8 |
| LB..... | 180 | Cylinder Pressure @ 70°F..... | 16.3 psig |

¹Size 454 = 30" (o.d.) x 57" (h), equipped with helium head pressure and dip tube for liquid withdrawal.

1-BUTENE C₄H₈

General Characteristics: A colorless, flammable and liquefied gas with a detectable odor.

Health Hazards: A simple asphyxiant.

| GAS GRADE/PURITY SPEC. | CYLINDER SIZE | CONTENTS | EQUIPMENT RECOMMENDATIONS |
|--|-----------------------|----------------------------|--|
| RESEARCH Min. Purity 99.7% | 18 LP LB | 7.7 kg 170 g | Single-stage high purity regulator, refer to page 140 |
| C.P. Min. Purity 99.0% (Liquid Phase) | 110 LP 18 LP LB | 58.0 kg 7.7 kg 170 g | High purity lecture bottle regulator, refer to page 146 |

TECHNICAL INFORMATION

| | | | |
|-----------------------|------------------|-------------------------------|-------------------------|
| Molecular Weight..... | 56.11 | Dot Name..... | Liquefied Petroleum Gas |
| Specific Volume..... | 6.7CF/lb | UN No..... | UN1075 |
| Fire Potential..... | 1.6 - 10% in Air | Dot Class..... | 2.1 |
| TLV-TWA..... | None established | Dot Label..... | Flammable Gas |
| CGA Valve..... | 510 | Cas Registry..... | 590-18-1 |
| LB..... | 180 | Cylinder Pressure @ 70°F..... | 23.5 psig |