Ethane

**Description**

- **Synonym:** Methylmethane; Dimethyl
- **Formula:** $C_2H_6$

**Gas Data**

- **Molecular Weight:** 30.07
- **Density:** 1.280 kg/m³ @ 21.1°C, 101.325 kPa, 0.07990 lb/ft³ @ 70°F, 14.696 psia
- **Specific Volume:** 0.7813 m³/kg @ 21.1°C, 101.325 kPa, 12.52 ft³/lb @ 70°F, 14.696 psia

**Safety Information**

- **LFL in Air:** 3%
- **UFL in Air:** 12.5%

**Shipping Information**

- **CAS Registry Number:** 74-84-0
- **I.D. Number:** UN 1035
- **ECCN Number:** 1C982
- **DOT Proper Shipping Name:** Ethane, Compressed
- **DOT Classification:** 2.1 (Flammable Gas)
- **DOT Label:** FLAMMABLE GAS
- **TC Shipping Name:** Ethane
- **TC Classification:** 2.1
- **TC Label:** FLAMMABLE GAS

**Cylinder Specifications**

<table>
<thead>
<tr>
<th>Cylinder Size</th>
<th>Valve Outlet Pressure psig @ 70°F</th>
<th>Pressure kPa @ 21.1°C</th>
<th>Approximate Ship Weight lb</th>
<th>Approximate Weight kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1A</td>
<td>350</td>
<td>546</td>
<td>3,765</td>
<td>154</td>
</tr>
<tr>
<td>1R</td>
<td>350</td>
<td>546</td>
<td>3,765</td>
<td>154</td>
</tr>
<tr>
<td>2</td>
<td>350</td>
<td>546</td>
<td>3,765</td>
<td>154</td>
</tr>
<tr>
<td>3</td>
<td>350</td>
<td>546</td>
<td>3,765</td>
<td>154</td>
</tr>
<tr>
<td>6</td>
<td>350</td>
<td>546</td>
<td>3,765</td>
<td>154</td>
</tr>
<tr>
<td>7</td>
<td>350</td>
<td>546</td>
<td>3,765</td>
<td>154</td>
</tr>
<tr>
<td>LB</td>
<td>170</td>
<td>546</td>
<td>3,765</td>
<td>154</td>
</tr>
</tbody>
</table>

**Gas Grade Purity Specifications**

For each type of purity, the specifications include typical analyses (mol/mol units) for several components and water, with recommended equipment and model numbers. The Certificates of Analysis are available on request at various costs. For more information, please contact the supplier.

**Ethane, Research Purity 99.999%**

- **Typical Analysis (mol/mol units):**
  - CO/CO₂ < 2 ppm
  - Nitrogen < 3 ppm
  - Oxygen < 4 ppm
  - Other Hydrocarbons < 6 ppm
  - Water < 3 ppm

**Equipment Recommendations:**

- Dual Stage Reg. Series 3120-350
- Single Stage Reg. Series 3530-350
- LB Regulator Series 3550-170

**Ethane, Matheson Purity 99.99%**

- **Typical Analysis (mol/mol units):**
  - CO/CO₂ < 8 ppm
  - Nitrogen < 10 ppm
  - Oxygen < 4 ppm
  - Other Hydrocarbons < 80 ppm
  - Water < 3 ppm

**Equipment Recommendations:**

- Dual Stage Reg. Series 3120-350
- Single Stage Reg. Series 3530-350
- LB Regulator Series 3550-170

**Ethane, Ultra High Purity 99.95%**

- **Typical Analysis (mol/mol units):**
  - CO/CO₂ < 10 ppm
  - Nitrogen < 50 ppm
  - Oxygen < 10 ppm
  - Other Hydrocarbons < 400 ppm
  - Water < 5 ppm

**Equipment Recommendations:**

- Dual Stage Reg. Series 1250-350
- Single Stage Reg. Series 3530-350
- LB Regulator Series 3550-170
- Tee Purge 4753-350
- Personal Monitor IQ250
- Leak Detector 8057

For analysis of sulfurs, alcohols, and hydrides, please contact the supplier for a custom basis. A Certificate of Analysis is available on request at nominal charge.
## Ethane (continued)

<table>
<thead>
<tr>
<th>Gas Grade Purity Specifications</th>
<th>Product Code</th>
<th>Cylinder Size</th>
<th>Content US</th>
<th>Content Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethane, CP Grade 99%</td>
<td>G1353201</td>
<td>1A</td>
<td>32 lb</td>
<td>14.51 kg</td>
</tr>
<tr>
<td></td>
<td>G1353240</td>
<td>2</td>
<td>10 lb</td>
<td>4.54 kg</td>
</tr>
<tr>
<td></td>
<td>G1353250</td>
<td>3</td>
<td>5 lb</td>
<td>1.36 kg</td>
</tr>
<tr>
<td></td>
<td>G1353275</td>
<td>LB</td>
<td>0.25 lb</td>
<td>113 gm</td>
</tr>
<tr>
<td>Ethane, Technical Purity 95%</td>
<td>G1353101</td>
<td>1A</td>
<td>32 lb</td>
<td>14.51 kg</td>
</tr>
<tr>
<td></td>
<td>G1353140</td>
<td>2</td>
<td>10 lb</td>
<td>4.54 kg</td>
</tr>
<tr>
<td></td>
<td>G1353175</td>
<td>LB</td>
<td>0.25 lb</td>
<td>113 gm</td>
</tr>
</tbody>
</table>

Liquid phase, weight/weight%

A Certificate of Conformance will be provided on request.

<table>
<thead>
<tr>
<th>Equipment Recommendations</th>
<th>Model No.</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dual Stage Reg.</td>
<td>Series 81-350</td>
<td>293</td>
</tr>
<tr>
<td>Single Stage Reg.</td>
<td>Series 18-350</td>
<td>292</td>
</tr>
<tr>
<td>LB Regulator</td>
<td>Series 3320-170</td>
<td>302</td>
</tr>
<tr>
<td>Tee Purge</td>
<td>4753-350</td>
<td>423</td>
</tr>
<tr>
<td>Personal Monitor</td>
<td>IQ250</td>
<td>398</td>
</tr>
<tr>
<td>Leak Detector</td>
<td>8057</td>
<td>402</td>
</tr>
</tbody>
</table>

Liquid phase, weight/weight%

A Certificate of Conformance will be provided on request.

www.mathesontrigas.com