

## Solvay Chemicals Hydrochloric Acid 31% - Technical Grade (11 wt% - 20 wt% Concentration)

Category : Fluid

### Material Notes:

Hydrochloric acid, also known as muriatic acid, is a colorless to yellow liquid, with a pungent odor. Hydrochloric acid is a strong acid used as chemical reagent, pH-regulating, ion exchanger regenerating, pickling or cleaning agent. EINECS: 231-595-7/CAS: 7647-01-0/UN: 1789 Information provided by Solvay

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Solvay-Chemicals-Hydrochloric-Acid-31-Technical-Grade-11-wt-20-wt-Concentration.php](http://www.lookpolymers.com/polymer_Solvay-Chemicals-Hydrochloric-Acid-31-Technical-Grade-11-wt-20-wt-Concentration.php)

| Physical Properties | Metric                 | English                     | Comments                     |
|---------------------|------------------------|-----------------------------|------------------------------|
| Density             | 1.0188 g/cc            | 0.036806 lb/in <sup>3</sup> | Concentration 0.12 kg HCl/kg |
|                     | @Temperature 100 Å°C   | @Temperature 212 Å°F        |                              |
|                     | 1.0286 g/cc            | 0.037161 lb/in <sup>3</sup> | Concentration 0.14 kg HCl/kg |
|                     | @Temperature 100 Å°C   | @Temperature 212 Å°F        |                              |
|                     | 1.0383 g/cc            | 0.037511 lb/in <sup>3</sup> | Concentration 0.16 kg HCl/kg |
|                     | @Temperature 100 Å°C   | @Temperature 212 Å°F        |                              |
|                     | 1.0479 g/cc            | 0.037858 lb/in <sup>3</sup> | Concentration 0.18 kg HCl/kg |
|                     | @Temperature 100 Å°C   | @Temperature 212 Å°F        |                              |
|                     | 1.0497 g/cc            | 0.037923 lb/in <sup>3</sup> | Concentration 0.12 kg HCl/kg |
|                     | @Temperature 40.0 Å°C  | @Temperature 104 Å°F        |                              |
|                     | 1.0574 g/cc            | 0.038201 lb/in <sup>3</sup> | Concentration 0.20 kg HCl/kg |
|                     | @Temperature 100 Å°C   | @Temperature 212 Å°F        |                              |
|                     | 1.0594 g/cc            | 0.038273 lb/in <sup>3</sup> | Concentration 0.14 kg HCl/kg |
|                     | @Temperature 40.0 Å°C  | @Temperature 104 Å°F        |                              |
|                     | 1.0654 g/cc            | 0.038490 lb/in <sup>3</sup> | Concentration 0.12 kg HCl/kg |
|                     | @Temperature -5.00 Å°C | @Temperature 23.0 Å°F       |                              |
|                     | 1.0692 g/cc            | 0.038627 lb/in <sup>3</sup> | Concentration 0.16 kg HCl/kg |
|                     | @Temperature 40.0 Å°C  | @Temperature 104 Å°F        |                              |
|                     | 1.0754 g/cc            | 0.038851 lb/in <sup>3</sup> | Concentration 0.14 kg HCl/kg |
|                     | @Temperature -5.00     |                             |                              |

| Physical Properties | °C<br>Metric                         | @Temperature 23.0 °F<br>English                     | Comments   |
|---------------------|--------------------------------------|---|--|
|                     | 1.079 g/cc<br>@Temperature 40.0 °C   | 0.03898 lb/in <sup>3</sup><br>@Temperature 104 °F   | Concentration 0.18 kg HCl/kg                         |
|                     | 1.0864 g/cc<br>@Temperature -5.00 °C | 0.039249 lb/in <sup>3</sup><br>@Temperature 23.0 °F | Concentration 0.16 kg HCl/kg                         |
|                     | 1.0975 g/cc<br>@Temperature -5.00 °C | 0.039650 lb/in <sup>3</sup><br>@Temperature 23.0 °F | Concentration 0.18 kg HCl/kg                         |
|                     | 1.1087 g/cc<br>@Temperature -5.00 °C | 0.040054 lb/in <sup>3</sup><br>@Temperature 23.0 °F | Concentration 0.20 kg HCl/kg                         |
|                     | 1.888 g/cc<br>@Temperature 40.0 °C   | 0.06821 lb/in <sup>3</sup><br>@Temperature 104 °F   | Concentration 0.20 kg HCl/kg                         |
| Viscosity           | 0.38 cP<br>@Temperature 100 °C       | 0.38 cP<br>@Temperature 212 °F                      | Dynamic, Concentration 0.15 kg FeCl <sub>3</sub> /kg |
|                     | 0.45 cP<br>@Temperature 100 °C       | 0.45 cP<br>@Temperature 212 °F                      | Dynamic, Concentration 0.20 kg FeCl <sub>3</sub> /kg |
|                     | 0.48 cP<br>@Temperature 80.0 °C      | 0.48 cP<br>@Temperature 176 °F                      | Dynamic, Concentration 0.15 kg FeCl <sub>3</sub> /kg |
|                     | 0.56 cP<br>@Temperature 80.0 °C      | 0.56 cP<br>@Temperature 176 °F                      | Dynamic, Concentration 0.20 kg FeCl <sub>3</sub> /kg |
|                     | 0.63 cP<br>@Temperature 60.0 °C      | 0.63 cP<br>@Temperature 140 °F                      | Dynamic, Concentration 0.15 kg FeCl <sub>3</sub> /kg |
|                     | 0.72 cP<br>@Temperature 60.0 °C      | 0.72 cP<br>@Temperature 140 °F                      | Dynamic, Concentration 0.20 kg FeCl <sub>3</sub> /kg |
|                     | 0.87 cP<br>@Temperature 40.0 °C      | 0.87 cP<br>@Temperature 104 °F                      | Dynamic, Concentration 0.15 kg FeCl <sub>3</sub> /kg |
|                     | 0.98 cP<br>@Temperature 40.0 °C      | 0.98 cP   | Dynamic, Concentration 0.20 kg FeCl <sub>3</sub> /kg |

| Physical Properties     | °C<br>Metric                                    | @Temperature 104 °F<br>English               | Comments                                |
|-------------------------|---|--|---|
|                         | 1.28 cP<br><br>@Temperature 20.0 °C             | 1.28 cP<br><br>@Temperature 68.0 °F          | Dynamic, Concentration 0.15 kg FeCl3/kg |
|                         | 1.39 cP<br><br>@Temperature 20.0 °C             | 1.39 cP<br><br>@Temperature 68.0 °F          | Dynamic, Concentration 0.20 kg FeCl3/kg |
|                         | 1.51 cP<br><br>@Temperature 10.0 °C             | 1.51 cP<br><br>@Temperature 50.0 °F          | Dynamic, Concentration 0.15 kg FeCl3/kg |
|                         | 1.71 cP<br><br>@Temperature 10.0 °C             | 1.71 cP<br><br>@Temperature 50.0 °F          | Dynamic, Concentration 0.20 kg FeCl3/kg |
|                         | 2.02 cP<br><br>@Temperature 0.000 °C            | 2.02 cP<br><br>@Temperature 32.0 °F          | Dynamic, Concentration 0.15 kg FeCl3/kg |
|                         | 2.13 cP<br><br>@Temperature 0.000 °C            | 2.13 cP<br><br>@Temperature 32.0 °F          | Dynamic, Concentration 0.20 kg FeCl3/kg |
|                         | 2.64 cP<br><br>@Temperature -10.0 °C            | 2.64 cP<br><br>@Temperature 14.0 °F          | Dynamic, Concentration 0.15 kg FeCl3/kg |
|                         | 2.73 cP<br><br>@Temperature -10.0 °C            | 2.73 cP<br><br>@Temperature 14.0 °F          | Dynamic, Concentration 0.20 kg FeCl3/kg |
| <b>Molecular Weight</b> | <b>36.47 g/mol</b>                              | <b>36.47 g/mol</b>                           | <b>HCl</b>                              |
| <b>Vapor Pressure</b>   | <b>0.00200 bar</b><br><br>@Temperature -10.0 °C | <b>1.50 torr</b><br><br>@Temperature 14.0 °F | <b>Concentration 0.15 kg HCl/kg</b>     |
|                         | <b>0.00200 bar</b><br><br>@Temperature -10.0 °C | <b>1.50 torr</b><br><br>@Temperature 14.0 °F | <b>Concentration 0.20 kg HCl/kg</b>     |
|                         | <b>0.00300 bar</b><br><br>@Temperature 0.000 °C | <b>2.25 torr</b><br><br>@Temperature 32.0 °F | <b>Concentration 0.20 kg HCl/kg</b>     |
|                         | <b>0.00500 bar</b><br><br>@Temperature 0.000 °C | <b>3.75 torr</b><br><br>@Temperature 32.0 °F | <b>Concentration 0.15 kg HCl/kg</b>     |

| Physical Properties | Metric                                 | English                                | Comments                     |
|---------------------|--|--|------------------------------|
|                     | 0.00700 bar<br>@Temperature 10.0 Å°C   | 5.25 torr<br>@Temperature 50.0 Å°F     | Concentration 0.20 kg HCl/kg |
|                     | 0.00900 bar<br>@Temperature 10.0 Å°C   | 6.75 torr<br>@Temperature 50.0 Å°F     | Concentration 0.15 kg HCl/kg |
|                     | 0.0140 bar<br>@Temperature 20.0 Å°C    | 10.5 torr<br>@Temperature 68.0 Å°F     | Concentration 0.20 kg HCl/kg |
|                     | 0.0170 bar<br>@Temperature 20.0 Å°C    | 12.8 torr<br>@Temperature 68.0 Å°F     | Concentration 0.15 kg HCl/kg |
|                     | 0.0460 bar<br>@Temperature 40.0 Å°C    | 34.5 torr<br>@Temperature 104 Å°F      | Concentration 0.20 kg HCl/kg |
|                     | 0.0550 bar<br>@Temperature 40.0 Å°C    | 41.3 torr<br>@Temperature 104 Å°F      | Concentration 0.15 kg HCl/kg |
|                     | 0.130 bar<br>@Temperature 60.0 Å°C     | 97.5 torr<br>@Temperature 140 Å°F      | Concentration 0.20 kg HCl/kg |
|                     | 0.150 bar<br>@Temperature 60.0 Å°C     | 113 torr<br>@Temperature 140 Å°F       | Concentration 0.15 kg HCl/kg |
|                     | 0.330 bar<br>@Temperature 80.0 Å°C     | 248 torr<br>@Temperature 176 Å°F       | Concentration 0.20 kg HCl/kg |
|                     | 0.370 bar<br>@Temperature 80.0 Å°C     | 278 torr<br>@Temperature 176 Å°F       | Concentration 0.15 kg HCl/kg |
|                     | 0.750 bar<br>@Temperature 100 Å°C      | 563 torr<br>@Temperature 212 Å°F       | Concentration 0.20 kg HCl/kg |
|                     | 0.810 bar<br>@Temperature 100 Å°C      | 608 torr<br>@Temperature 212 Å°F       | Concentration 0.15 kg HCl/kg |
| Surface Tension     | 0.064 dynes/cm<br>@Temperature 100 Å°C | 0.064 dynes/cm<br>@Temperature 212 Å°F | Concentration 0.15 HCl/kg    |

| Physical Properties | 0.064 dynes/cm<br>Metric | 0.064 dynes/cm<br>English | Comments                  |
|---------------------|--------------------------|---------------------------|---------------------------|
|                     | @Temperature 100 Å°C     | @Temperature 212 Å°F      | Concentration 0.20 HCl/kg |
|                     | 0.066 dynes/cm           | 0.066 dynes/cm            | Concentration 0.15 HCl/kg |
|                     | @Temperature 80.0 Å°C    | @Temperature 176 Å°F      |                           |
|                     | 0.067 dynes/cm           | 0.067 dynes/cm            | Concentration 0.20 HCl/kg |
|                     | @Temperature 80.0 Å°C    | @Temperature 176 Å°F      |                           |
|                     | 0.068 dynes/cm           | 0.068 dynes/cm            | Concentration 0.15 HCl/kg |
|                     | @Temperature 60.0 Å°C    | @Temperature 140 Å°F      |                           |
|                     | 0.068 dynes/cm           | 0.068 dynes/cm            | Concentration 0.20 HCl/kg |
|                     | @Temperature 60.0 Å°C    | @Temperature 140 Å°F      |                           |
|                     | 0.070 dynes/cm           | 0.070 dynes/cm            | Concentration 0.15 HCl/kg |
|                     | @Temperature 40.0 Å°C    | @Temperature 104 Å°F      |                           |
|                     | 0.070 dynes/cm           | 0.070 dynes/cm            | Concentration 0.20 HCl/kg |
|                     | @Temperature 40.0 Å°C    | @Temperature 104 Å°F      |                           |
|                     | 0.072 dynes/cm           | 0.072 dynes/cm            | Concentration 0.15 HCl/kg |
|                     | @Temperature 20.0 Å°C    | @Temperature 68.0 Å°F     |                           |
|                     | 0.072 dynes/cm           | 0.072 dynes/cm            | Concentration 0.20 HCl/kg |
|                     | @Temperature 20.0 Å°C    | @Temperature 68.0 Å°F     |                           |
|                     | 0.072 dynes/cm           | 0.072 dynes/cm            | Concentration 0.20 HCl/kg |
|                     | @Temperature 10.0 Å°C    | @Temperature 50.0 Å°F     |                           |
|                     | 0.073 dynes/cm           | 0.073 dynes/cm            | Concentration 0.15 HCl/kg |
|                     | @Temperature 0.000 Å°C   | @Temperature 32.0 Å°F     |                           |
|                     | 0.073 dynes/cm           | 0.073 dynes/cm            | Concentration 0.20 HCl/kg |
|                     | @Temperature 0.000 Å°C   | @Temperature 32.0 Å°F     |                           |
|                     | 0.073 dynes/cm           | 0.073 dynes/cm            | Concentration 0.15 HCl/kg |
|                     | @Temperature 10.0 Å°C    | @Temperature 50.0 Å°F     |                           |

| Physical Properties | Metric dynes/cm           | English dynes/cm      | Comments                  |
|---------------------|---------------------------|-----------------------|---------------------------|
|                     | @Temperature -10.0<br>Â°C | @Temperature 14.0 Â°F | Concentration 0.15 HCl/kg |
|                     | 0.074 dynes/cm            | 0.074 dynes/cm        | Concentration 0.20 HCl/kg |
|                     | @Temperature -10.0<br>Â°C | @Temperature 14.0 Â°F |                           |

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