

Hydrochloric acid

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Hydrogen chloride (HCl) is a colorless gas. Its aqueous solution is known as Hydrochloric Acid. Hydrogen chloride or hydrochloric acid is produced by burning hydrogen and chlorine together and is also a by-product of the chlorination of organic compounds. The concentration and the quality of HCl are the decisive factors for the type of application. Our Ferrous Chloride comes in 30% solution. For more information on Hydrochloric Acid, please download our Application Guide or Product Data Sheet.

CAS number
7647-01-0

REACH number
01-2119484862-27

EINECS/ELINCS No.
231-595-7

Molecular weight
36.46

Molecular formula
HCl

Characteristics

Boiling temperature, 1013 mbar	> 80 (azeotrope) °C
Density	1.1478 g/cm ³
Dynamic viscosity, 20°C	1.74 mPa.s
Explosion limits in air, 1013 mbar	non-explosive % v/v
Flash point in air, 1013 mbar	non-inflammable °C
Freezing temperature	< -20 °C
pH	<0
Specific heat capacity (Cp)	2.56 J/g.K

Notes:

Aqueous solutions of hydrochloric acid with a concentration of 30, 33 or 36 w/w% are available in various grades of quality.

Storage

Hydrochloric acid is a strong acid and therefore corrodes most metals. This also applies to water containing hydrochloric acid vapours, which are similarly corrosive. Only a few metals such as gold, platinum and tantalum can resist the corrosive contact with hydrochloric acid. Therefore for storage and transportation of hydrochloric acid, mostly synthetic materials or coated steel are used. Storage tanks for hydrochloric acid are best made of Fibre Reinforced Plastics (FRP) material with a Polyvinylchloride (PVC) lining. Also called PVC/FRP storage tanks.. The FRP can be of vinylesterresin. Especially for larger tanks, a good alternative material is steel with a coating of natural rubber, or a coating of synthetic rubber such as the very resistant chlorosulphonated polyethene, e.g., Hypalon®.

Packaging and transport

Hydrochloric acid is delivered in bulk by road tank cars, rail tank cars, and ISO-containers. The available modality can differ per manufacturing site. The actual Full Truck Load (FTL) is geospecific and can therefore differ due to local regulations and legislation.

UN number	1789
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Safety and handling

Hydrochloric acid is a strong acid. It reacts violently with alkaline chemicals such as caustic soda lye under production of heat. Hydrochloric acid with high concentrations forms acidic mists. Both the mists as the solution have a corrosive effect on human tissue, potentially causing damage to respiratory tracts, eyes, skin, and gastrointestinal tract. For additional safety data and/or PPE usage, we refer to our material safety data sheets (MSDS).

All information concerning this product and/or suggestions for handling and use contained herein are offered in good faith and are believed to be reliable. Nouryon, however, makes no warranty as to accuracy and/or sufficiency of such information and/or suggestions, as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. Nouryon does not accept any liability whatsoever arising out of the use of or reliance on this information, or out of the use or the performance of the product. Nothing contained herein shall be construed as granting or extending any license under any patent. Customer must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes. The information contained herein supersedes all previously issued information on the subject matter covered. The customer may forward, distribute, and/or photocopy this document only if unaltered and complete, including all of its headers and footers, and should refrain from any unauthorized use. Don't copy this document to a website.

Contact Us

Arnhem

Velperweg 76
6824 BM Arnhem
The Netherlands
+31 26 366 4433
industrialchemicals@nouryon.com

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