

**MATERIAL DATA SHEET 58/A/TT/08/2015  
for Hydrochloric Acid**

**1 PRODUCT NAME**

**HYDROCHLORIC ACID**

- |               |                            |
|---------------|----------------------------|
| a) market     | – Hydrochloric acid        |
| b) systematic | – IUPAC: Hydrochloric Acid |
| c) in English | – Hydrochloric Acid        |
| d) in German  | – Salzsäure                |

**2 IDENTIFICATION**

- |                             |             |
|-----------------------------|-------------|
| <b>2.1 Degree of purity</b> | – technical |
| <b>2.2 Form</b>             | – liquid    |
| <b>2.3 Chemical formula</b> | – HCl       |
| <b>2.4 Molecular mass</b>   | – 36.46     |
| <b>2.6 CAS no.</b>          | – 7647-01-0 |
| <b>2.7 WE (EINECS) no.</b>  | – 231-595-7 |

**3 GENERAL PROPERTIES**

Hydrochloric acid reacts strongly with oxidants, resulting in release of a toxic gas – chlorine.

Reacts with most metals, releasing flammable hydrogen. Strongly corrosive to most metals, including stainless steel.

Reacts with bases, releasing large amounts of heat.

In reactions with many compounds, toxic gases are released, such as hydrogen sulphide, hydrogen cyanide, arsenic trihydride, chlorine, hydrogen chloride and others.

Reacts with numerous oxidants, resulting in its oxidation to free chlorine.

**4 ADDITIONAL INFORMATION**

According to the Regulation (EC) no. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), hydrochloric acid is a substance subject to registration.

WE	231-595-7
CAS no.	7647-01-0
Index no.	017-002-01-X

**5 GENERAL REQUIREMENTS**

Hydrochloric acid: clear liquid, colourless to yellow, concentration min. 26%.

## 6 TECHNICAL REQUIREMENTS – as per Table 1.

Table 1

No.	Parameter	Requirements	Test methods as per
1	External appearance	clear liquid, colourless to yellow	-
2	Hydrogen chloride content, % (w/w)	26.0 – 32.0	PN-69/C-84049
3	Sulphuric acid content, calculated to $\text{SO}_4^{2-}$ , %(w/w)	max 0.05	PN-69/C-84049
4	Iron content, % (w/w)	max 0.005	PN-91/C-84046
5	Oxidants content, calculated to $\text{Cl}_2$ , %(w/w)	max 0.005	PN-91/C-84046
6	Organic compounds content, % (w/w)	max 0.100	PN-91/C-84046
7	Roasting residue, %(w/w)	max 0.050	PN-91/C-84046
8	Arsenic content, % (w/w)	max 0.0002	PN-81/C-04511

## 7 SAMPLING AND SAMPLE PREPARATION FOR TESTING – PN-74/C-60008 and PN-67/C-04500

### 8 BATCH SIZE

A hydrochloric acid batch is the content of a single rail or truck tanker, or as a maximum, 60 unit packages, filled with hydrochloric acid intended for a single recipient.

### 9 PACKAGING, STORAGE, TRANSPORT

Hydrochloric acid is considered a hazardous substance and is subject to ADR/RID regulations, as well as the Technical Supervision Office (Urząd Dozoru Technicznego, UDT) and Technical Supervision for Transportation (Transportowy Dozór Techniczny, TDT).

#### 9.1 PACKAGING

Hydrochloric acid must be delivered in tankers resistant to hydrochloric acid, which should be filled to a maximum 95% of their capacity. Tanker markings must comply with hazardous substance transport regulations.

**NOTE:** Tanker cleanliness for free carrier shipments is the Seller's responsibility, tanker cleanliness for ex works shipments is the Purchaser's responsibility. Cleanliness of rail tankers is the responsibility of their owner or lessee.

#### 9.2 STORAGE

Hydrochloric acid must be stored in steel tanks lined with an acid-resistant material, or in plastic tanks resistant to hydrochloric acid, in ventilated rooms or outdoors. Do not use packages made of non-ferrous metals (aluminium, tin, zinc).

Tanks must be placed on acid-resistant trays with sewerage system connection.

Hydrochloric acid must not be stored together with or near oxidating materials, particularly nitrous acid and chlorates, flammable materials, or near heat sources.

#### 9.3 TRANSPORT

**Hydrochloric acid** must be transported in packages as per section 9, in a manner consistent with current ADR/RID regulations.

Transport data is as follows:

ADR data	UN 1789	Proper shipping name HYDROCHLORIC ACID	Packaging group: II	Class 8	Shipping category 2
RID data	UN 1789	Official shipping name: HYDROCHLORIC ACID	Packaging group: II	Class 8	Shipping category 2

## 10 QUALITY STATEMENT

The manufacturer is obligated to provide the recipient with a quality statement for every rail or truck tanker with hydrochloric acid, declaring the product's compliance with the Material Data Sheet requirements.

## 11 HYDROCHLORIC ACID MEETS THE REQUIREMENTS OF THE FOLLOWING REGULATIONS AND STANDARDS

No.	Legal regulations concerning safety, health and environmental protection specific to the substance/mixture
1	Act of 25 February 2011 on chemical substances and their mixtures (Polish Journal of Laws no. 63, item 322).
2	Regulation (EC) no. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
3	Regulation (EC) no. 1272/2008 of the European Parliament and of the Council of 16 December 2008 concerning classification, labelling and packaging of substances and mixtures (CLP).
4	Regulation (EU) no. 453/2010 of the Commission of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), as amended.
5	Regulation of the Minister of Labour and Social Policy of 6 June 2014 on maximum permissible concentrations and intensities of agents hazardous to health in the working environment (item 817).
6	Act of 19 August 2011 on transport of hazardous products (Polish Journal of Laws 2011, no. 227, item 1367).

Approved

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