

SAFETY DATA SHEET

Version 5.7
Revision Date 12/16/2016
Print Date 03/08/2018

1. PRODUCT AND COMPANY IDENTIFICATION**1.1 Product identifiers**

Product name : Hydrochloric acid solution
Product Number : 13-1700
Brand : Katayama OEM Partner
CAS-No. : 7647-01-0

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Corrosive to metals (Category 1), H290

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Warning

Hazard statement(s)
H290

May be corrosive to metals.

Precautionary statement(s)

P234 : Keep only in original container.
P390 : Absorb spillage to prevent material damage.
P406 : Store in corrosive resistant stainless steel container with a resistant inner liner.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS**3.2 Mixtures**

Synonyms : Hydrogen chloride

Formula : HCl
Molecular weight : 36.46 g/mol

Hazardous components

| Component | Classification | Concentration |
|---|--|---------------|
| Hydrochloric acid | | |
| CAS-No. 7647-01-0 | Met. Corr. 1; Skin Corr. 1B; Eye Dam. 1; STOT SE 3; H290, H314, H335 | >= 1 - < 5 % |
| EC-No. 231-595-7 | | |
| Index-No. 017-002-01-X | | |
| Registration number 01-2119484862-27-XXXX | | |

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas.
For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid inhalation of vapour or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Corrodes metal. Metal containers must be lined.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

| Component | CAS-No. | Value | Control parameters | Basis |
|-------------------|-----------|--|--------------------------------|---|
| Hydrochloric acid | 7647-01-0 | C | 2.000000 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | Remarks | Upper Respiratory Tract irritation Not classifiable as a human carcinogen | | |
| | | C | 5.000000 ppm 7.000000 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | Often used in an aqueous solution. | | |
| | | C | 5.000000 ppm 7.000000 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | The value in mg/m3 is approximate. Ceiling limit is to be determined from breathing-zone air samples. | | |
| | | C | 2 ppm | USA. ACGIH Threshold Limit Values (TLV) |
| | | Upper Respiratory Tract irritation Not classifiable as a human carcinogen | | |
| | | C | 5 ppm 7 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | Often used in an aqueous solution. | | |
| | | C | 5 ppm 7 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | The value in mg/m3 is approximate. Ceiling limit is to be determined from breathing-zone air samples. | | |
| | | C | 5 ppm 7 mg/m3 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| | | PEL | 0.3 ppm 0.45 mg/m3 | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
| | | C | 2 ppm | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|---|------------------------------------|
| a) Appearance | Form: liquid Colour: colourless |
| b) Odour | No data available |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | No data available |
| f) Initial boiling point and boiling range | No data available |
| g) Flash point | Not applicable |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |
| k) Vapour pressure | 23 hPa (17 mmHg) at 20 °C (68 °F) |
| l) Vapour density | No data available |
| m) Relative density | No data available |
| n) Water solubility | completely miscible |
| o) Partition coefficient: n-octanol/water | No data available |
| p) Auto-ignition temperature | does not ignite |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | Not explosive |

t) Oxidizing properties No data available

9.2 Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Metals

10.6 Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Hydrogen chloride gas

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

No data available

Inhalation: No data available

Dermal: No data available

No data available

Skin corrosion/irritation

slight irritation

Serious eye damage/eye irritation

slight irritation

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric acid)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure.

Specific target organ toxicity - repeated exposure

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard

No data available

Additional Information

RTECS: Not available

Ingestion of large amounts may cause:, Local irritation

12. ECOLOGICAL INFORMATION**12.1 Toxicity**

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

May be harmful to aquatic organisms due to the shift of the pH.

13. DISPOSAL CONSIDERATIONS**13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION**DOT (US)**

UN number: 1789 Class: 8 Packing group: III

Proper shipping name: Hydrochloric acid

Reportable Quantity (RQ):

Poison Inhalation Hazard: No

IMDG

UN number: 1789 Class: 8 Packing group: III EMS-No: F-A, S-B

Proper shipping name: HYDROCHLORIC ACID

IATA

UN number: 1789 Class: 8 Packing group: III

Proper shipping name: Hydrochloric acid

15. REGULATORY INFORMATION**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

| | CAS-No. | Revision Date |
|-------------------|-----------|---------------|
| Hydrochloric acid | 7647-01-0 | 1993-04-24 |

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

Hydrochloric acid

CAS-No.
7647-01-0

Revision Date
1993-04-24

Pennsylvania Right To Know Components

Water

CAS-No.
7732-18-5

Revision Date

Hydrochloric acid

7647-01-0

1993-04-24

New Jersey Right To Know Components

Water

CAS-No.
7732-18-5

Revision Date

Hydrochloric acid

7647-01-0

1993-04-24

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

| | |
|------------|--|
| Eye Dam. | Serious eye damage |
| H290 | May be corrosive to metals. |
| H314 | Causes severe skin burns and eye damage. |
| H335 | May cause respiratory irritation. |
| Met. Corr. | Corrosive to metals |
| Skin Corr. | Skin corrosion |
| STOT SE | Specific target organ toxicity - single exposure |

HMIS Rating

| | |
|------------------------|---|
| Health hazard: | 3 |
| Chronic Health Hazard: | |
| Flammability: | 0 |
| Physical Hazard | 0 |

NFPA Rating

| | |
|--------------------|---|
| Health hazard: | 3 |
| Fire Hazard: | 0 |
| Reactivity Hazard: | 0 |

Further information

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Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

Version: 5.7

Revision Date: 12/16/2016

Print Date: 03/08/2018