Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking
   Product identifier:
   - Product name: 3mol/L(3N)-Hydrochloric acid
   - Product code (SDS NO): A0340E-2
   Details of the supplier of the safety data sheet
   - Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
   - Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN
   - Division: Safety Management Dept. of Chemicals
   - Telephone number: +81-6-6946-8061
   - FAX: +81-6-6946-1607
   - e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification
   GHS classification and label elements of the product
   Classification of the substance or mixture
   HEALTH HAZARDS
   - Acute toxicity (Oral): Category 4
   - Acute toxicity (Inhalation): Category 3
   - Skin corrosion/irritation: Category 1
   - Serious eye damage/eye irritation: Category 1
   - Respiratory sensitization: Category 1
   - Specific target organ toxicity – single exposure: Category 1(respiratory apparatus/system)
   - Specific target organ toxicity – repeated exposure: Category 1(teeth; respiratory apparatus/system)
   ENVIRONMENT HAZARDS
   - Hazardous to the aquatic environment (Acute): Category 2

Label elements

Signal word: Danger

HAZARD STATEMENT
- Harmful if swallowed
- Toxic if inhaled
- Causes severe skin burns and eye damage
- Causes serious eye damage
- May cause allergy or asthma symptoms or breathing difficulties if inhaled
- Causes damage to organs after single exposure
- Causes damage to organs through prolonged or repeated exposure
- Toxic to aquatic life

PRECAUTIONARY STATEMENT
Prevention
- Avoid release to the environment.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- In case of inadequate ventilation wear respiratory protection. (as specified by the manufacturer/supplier or the competent authority.)
- Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.  
Wear protective gloves, protective clothing or face protection.  
Wear eye protection/face protection.  
Do not eat, drink or smoke when using this product.

Response
Get medical advice/attention if you feel unwell.  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
Wash contaminated clothing before reuse.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage
Store in a well-ventilated place. Keep container tightly closed.

Disposal
Dispose of contents/container in accordance with local/national regulation.

3. Composition/information on ingredients
Mixture/Substance selection:
Mixture
Ingredient name: Hydrochloric acid  
Content (%): 11  
Chemical formula: ClH  
Chemicals No, Japan: 1-215  
CAS No.: 7647-01-0  
MW: 36.5  
ECNO: 231-595-7

Ingredient name: Water  
Content (%): 89  
Chemical formula: H2O  
CAS No.: 7732-18-5  
MW: 18.02  
ECNO: 231-791-2

Note: The figures shown above are not the specifications of the product.

4. First-aid measures
Descriptions of first-aid measures
General measures
Get medical attention/advice if you feel unwell.

IF INHALED
Remove person to fresh air and keep comfortable for breathing.  
If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)
Take off immediately all contaminated clothing. Rinse skin with water/shower.  
If skin irritation or rash occurs: Get medical advice/attention.

IF IN EYES
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy
to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

IF SWALLOWED
Rinse mouth. Do NOT induce vomiting.
Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Use appropriate extinguishing media suitable for surrounding facilities.

Specific hazards arising from the substance or mixture
Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters
Specific fire-fighting measures
Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters
Wear fire/flame resistant/retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with full face piece operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures
Ventilate area until material pick up is complete.
Wear proper protective equipment.

Methods and materials for containment and cleaning up
Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident
Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures
(Exposure Control for handling personnel)
Do not breathe dust/fume/gas/mist/vapors/spray.
(Protective measures against fire and explosion)
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Exhaust/ventilator
Exhaust/ventilator should be available.

Safety treatments
Avoid contact with skin.
Avoid contact with eyes.

Safety Measures/Incompatibility
Use only outdoors or in a well-ventilated area.
Wear protective gloves, protective clothing or face protection.
Wear eye protection/face protection.
When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities
Recommendation for storage
Keep container tightly closed.  
Store in a cool, dry place. Do not store in direct sunlight.  
keep under lock and key.

8. Exposure controls/personal protection

Control parameters
Adopted value
(Hydrochloric acid)
ACGIH(2000) STEL: C 2ppm (URT irr)
OSHA–PEL
(Hydrochloric acid)
STEL: C 5ppm, 7mg/m3

Exposure controls
Appropriate engineering controls
Do not use in areas without adequate ventilation.
Eye wash station should be available.
Washing facilities should be available.

Individual protection measures
Respiratory protection
Wear respiratory protection.
Hand protection
Wear protective gloves.
Eye protection
Wear eye/face protection.

Safety and Health measures
Wash contaminated parts thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wash contaminated clothing before reuse.

9. Physical and Chemical Properties
Information on basic physical and chemical properties

Physical properties
Appearance: Liquid
Color: Colorless, clear
Odor data N.A.

pH data N.A.

Phase change temperature
Initial Boiling Point/Boiling point data N.A.
Boiling range data N.A.
Melting point/Freezing point data N.A.
Decomposition temperature data N.A.
Flash point data N.A.
Auto-ignition temperature data N.A.

Explosive properties data N.A.
Vapor pressure data N.A.
Specific gravity/Density: 1.05g/cm3
Solubility
Solubility in water data N.A.
n-Octanol/water partition coefficient data N.A.
10. Stability and Reactivity

Reactivity

N.A.

Chemical stability
Stable under normal storage/handling conditions.

Possibility of hazardous reactions
(Hydrochloric acid)
The solution in water is a strong acid. It reacts violently with bases and is corrosive. Reacts violently with oxidants. This produces toxic gas (chlorine). Attacks many metals in the presence of water. This produces flammable/explosive gas (hydrogen). (ICSC 0163)

Conditions to avoid
Contact with incompatible materials.
Contact with fire source.

Incompatible materials
Bases, Oxidizing agents

Hazardous decomposition products
Chlorine, Hydrogen

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)
[GHS Cat. Japan, base data]
(Hydrochloric acid)
rat LD50=238mg/kg (SIDS, 2009)

Acute toxicity (Inhalation)
[GHS Cat. Japan, base data]
(Hydrochloric acid)
mist: rat LC50=0.42mg/L/4hr (SIDS, 2009)

Irritant properties

Skin corrosion/irritation
[GHS Cat. Japan, base data]
(Hydrochloric acid)
rabbit/mouse/rat/human corrosive (SIDS, 2009)

Serious eye damage /irritation
[GHS Cat. Japan, base data]
(Hydrochloric acid)
rabbit corrosive (SIDS, 2002)

Sensitization

Respiratory sensitization
[GHS Cat. Japan, base data]
(Hydrochloric acid)
cat. 1; Occupational/Environmental Allergy Society, Japan

No Mutagenic effects data available

Carcinogenicity
(Hydrochloric acid)
IARC-Gr.3 : Not Classifiable as a Human Carcinogen
Hydrochloric acid

No reproductive toxicity data available

Delayed and immediate effects and also chronic effects from short- and long-term exposure

STOT
12. Ecological Information
Ecotoxicity
Aquatic toxicity
  Toxic to aquatic life
Aquatic acute toxicity component(s) data
  [GHS Cat. Japan, base data]
  (Hydrochloric acid)
  Crustacea (Daphnia magna) EC50=0.492mg/L/48hr (SIDS, 2005)
Water solubility
  (Hydrochloric acid)
  67 g/100 ml (30℃) (ICSC, 2000)
No Persistence and degradability data available
Bioaccumulative potential
  (Hydrochloric acid)
  log Pow=0.25 (ICSC, 2000)
No Mobility in soil data available
Ozone depleting chemical data not available

13. Disposal considerations
Waste treatment methods
  Avoid release to the environment (~ if this is not the intended use).
  Dispose of contents/container in accordance with local/national regulation.

14. Transport Information
  UN No.: 1789
  Proper Shipping Name :
  HYDROCHLORIC ACID
  Class or division : 8
  Packing group : III
  ERG GUIDE No.: 157
  Special provisions No.: 223
IMDG Code (International Maritime Dangerous Goods Regulations)
  UN No.: 1789
  Proper Shipping Name :
  HYDROCHLORIC ACID
  Class or division : 8
  Packing group : III
  Special provisions No.: 223
IATA Dangerous Goods Regulations
UN No.: 1789
Proper Shipping Name: HYDROCHLORIC ACID
Class or division: 8
Hazard labels: Corrosive
Packing group: III
Special provisions No.: A3; A803

Environmental hazards
MARPOL Annex III – Prevention of pollution by harmful substances
Marine pollutants (yes/no): no
MARPOL Annex V – Prevention of pollution by garbage discharge
Specific target organ toxicity – repeated exposure: cat.1
Hydrochloric acid
Transport in bulk according to Annex II of MARPOL73/78 and IBC Code
Noxious Liquid; Cat. Z
Hydrochloric acid
Non Noxious Liquid; Cat. OS
Water

15. Regulatory Information
Safety, health and environmental regulations/legislation specific for the substance or mixture
US major regulations
TSCA
Hydrochloric acid; Water
Other regulatory information
Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information
GHS classification and labelling
Acute Tox. 4: H302 Harmful if swallowed
Acute Tox. 3: H331 Toxic if inhaled
Skin Corr. 1: H314 Causes severe skin burns and eye damage
Eye Dam. 1: H318 Causes serious eye damage
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
STOT SE 1: H370 Causes damage to organs after single exposure
STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure
Aquatic Acute 2: H401 Toxic to aquatic life

Reference Book
Globally Harmonized System of classification and labelling of chemicals, (5th ed., 2013), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th ed., 2017 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39–18)
IATA Dangerous Goods Regulations (60th Edition) 2019
Classification, labelling and packaging of substances and mixtures (table3-1 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2018 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
Supplier’s data/information

General Disclaimer
This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we
assume no liability resulting from its use. It is advised to make their own tests to
determine the safety and suitability of each such product or combination for their own
purposes.
The data given here is based on current knowledge and experience. The purpose of this
Safety Data Sheet is to describe the products in terms of their safety requirements. The
data does not signify any warranty with regard to the products’ properties.
The GHS classification data given here is based on current Japan official data (NITE published in
2017).