

Date of issue: 15/11/2017 Date of revision: 11/10/2019

Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking Product identifier: Product name: 0.5mol/L(N/2)-Hydrochloric acid Product code (SDS NO): A0025E-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** Skin corrosion/irritation: Category 2 Serious eye damage/eye irritation: Category 2 Respiratory sensitization: Category 1 Specific target organ toxicity - single exposure: Category 2(respiratory apparatus/system) Specific target organ toxicity - repeated exposure: Category 2(teeth; respiratory apparatus/system) ENVIRONMENT HAZARDS Hazardous to the aquatic environment (Acute): Category 3 (Note) GHS classification without description: Not classified/Classification not possible Label elements Signal word: Danger HAZARD STATEMENT Causes skin irritation Causes serious eye irritation May cause allergy or asthma symptoms or breathing difficulties if inhaled May cause damage to organs after single exposure

May cause damage to organs through prolonged or repeated exposure

Harmful 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.)

Wash contaminated parts thoroughly after handling.

Wear protective gloves.

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: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. 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. Disposal

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

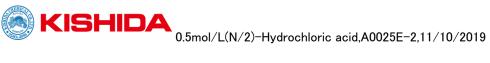
- 3. Composition/information on ingredients
 - Mixture/Substance selection:

Mixture

Ingredient name:Hydrochloric acid Content (%):1.8 Chemical formula:CIH Chemicals No, Japan:1–215 CAS No.:7647–01–0 MW:36.5 ECNO:231–595–7

Ingredient name:Water Content (%):98 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.
Wash with plenty of soap and water.
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.
Call a POISON CENTER or doctor/physician if you feel unwell.



5. Fire-fighting r	neasures
Extinguishing	
	rtinguishing media
	appropriate extinguishing media suitable for surrounding facilities.
	extinguishing media data is not available.
-	rds arising from the substance or mixture
	ainers may explode when heated.
	nay produce irritating, corrosive and/or toxic gases.
Advice for fire	-
-	e-fighting measures
	uate non-essential personnel to safe area.
	otective equipment and precautions for fire-fighters
	fire/flame resistant/retardant clothing.
	protective gloves/protective clothing/eye protection/face protection.
	ghters should wear self-contained breathing apparatus with full face peace operated
positi	ve pressure mode.
<u> </u>	
6. Accidental rel	
	ecautions, protective equipment and emergency procedures
	late area until material pick up is complete. proper protective equipment.
Environmenta	
	ent spills from entering sewers, watercourses or low areas. materials for containment and cleaning up
	rb spill with inert material (dry sand, earth, et al), then place in a chemical waste
conta	
	easures for secondary accident
	ct spillage.
7. Handling and	storage
Precautions f	or safe handling
Preventive	measures
(Exposu	re Control for handling personnel)
Do no	ot breathe dust/fume/gas/mist/vapors/spray.
(Protect	tive measures against fire and explosion)
Keep	away from heat/sparks/open flames/hot surfaces. – No smoking.
	t/ventilator)
	ust/ventilator should be available.
	treatments)
	I contact with skin.
	I contact with eyes.
Safety Mea	
	protective gloves, protective clothing or face protection.
	eye protection/face protection.
	using do not eat, drink or smoke.
Any incom	
	10.Stability and Reactivity″
	general occupational hygiene
	contaminated parts thoroughly after handling.
Do no	ot eat, drink or smoke when using this product.
— ·	att aantaminatad alathing and waah it hatara rayaa
Take	off contaminated clothing and wash it before reuse.

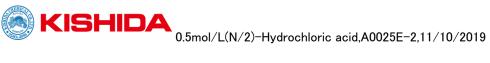


Storage

Conditions for safe storage Keep container tightly closed. Store in a cool, dry place. Do not store in direct sunlight. Container and packaging materials for safe handling Glass Polyethylene

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.

9. Physical and Chemical Properties Information on basic physical and chemical properties Physical state: Liquid Color: Colorless, clear Odor: None pH data is not available. Boiling point or initial boiling point data is not available. Boiling range data is not available. Melting point/Freezing point data is not available. Decomposition temperature data is not available. Flammability (gases, liquids and solids) data is not available. Flash point data is not available. Auto-ignition temperature data is not available. Lower and upper explosion limit/flammability limit data is not available. Vapor pressure data is not available. Relative vapor density (Air=1) data is not available. Density and/or relative density: 1.01g/cm3 Kinematic viscosity data is not available. Solubility: Solubility in water: Soluble n-Octanol/water partition coefficient data is not available. No Particle characteristics data is not available.



ity and Reactivity
vity
Not available.
cal stability
Stable under normal storage/handling conditions.
ility 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)
ions to avoid
Contact with incompatible materials.
Contact with fire source.
patible materials
Bases, Oxidizing agents, Metals
-
•
•
properties
a corrosion/irritation
[GHS Cat. Japan, base data]
(Hydrochloric acid)
rabbit/mouse/rat/human corrosive (SIDS, 2009)
ous eye damage/irritation
[GHS Cat. Japan, base data]
(Hydrochloric acid)
rabbit corrosive (SIDS, 2002)
zation
piratory sensitization
-
INCLIVE CONFILTY VALA IS HOL AVAILADIE.
ions to avoid Contact with incompatible materials. Contact with fire source. patible materials Bases, Oxidizing agents, Metals lous decomposition products Chlorine, Hydrogen



[cat.1] [GHS Cat. Japan, base data] (Hydrochloric acid) respiratory apparatus/system (ACGIH, 2003) STOT-repeated exposure [cat.1] [GHS Cat. Japan, base data] (Hydrochloric acid) teeth; respiratory apparatus/system (SIDS, 2002)

Aspiration hazard data is not available.

12. Ecological Information Ecotoxicity Aquatic toxicity Harmful 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°C) (ICSC, 2000) Persistence and degradability Persistence and degradability data is not available. Bioaccumulative potential (Hydrochloric acid) log Pow=0.25 (ICSC, 2000) Mobility in soil Mobility in soil data is not available. Other adverse effects Ozone depleting chemical data is 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
Not applicable to UN No., UN CLASS
Not applicable to IMDG Code
Not applicable to IATA Dangerous Goods Regulations
Environmental hazards
MARPOL Annex III - Prevention of pollution by harmful substances
Marine pollutants (yes/no) : no
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 Water; Hydrochloric acid Other regulatory information Ensure this material in compliance with federal requirements and ensure conformity to local regulations. 16. Other information GHS classification and labelling Skin Irrit. 2: H315 Causes skin irritation Eye Irrit. 2: H319 Causes serious eye irritation Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled STOT SE 2: H371 May cause damage to organs after single exposure STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure Aquatic Acute 3: H402 Harmful to aquatic life **Reference Book** Globally Harmonized System of classification and labelling of chemicals, (6th ed., 2015), UN Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 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) 2019 TLVs and BEIs. (ACGIH)

http://monographs.iarc.fr/ENG/Classification/index.php

Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.

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 2018).