



## Safety Data Sheet

### 1. Identification of the substance/mixture and of the company/undertaking

**Product identifier:**

Product name: 1mol/L(1N)-Ammonia solution

SDS No. : A0183E-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 1

Specific target organ toxicity – single exposure: Category 2(CNS; respiratory apparatus)

**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 damage

May cause damage to organs after single exposure(CNS; respiratory apparatus)

Harmful to aquatic life

**PRECAUTIONARY STATEMENT****Prevention**

Avoid release to the environment.

Do not breathe dust/fume/gas/mist/vapors/spray.

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**

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.

**Disposal**



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

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### 3. Composition/information on ingredients

Mixture/Substance selection:

Mixture

Ingredient name:Ammonia

Content (%):1.7

Chemical formula:NH<sub>3</sub>

Chemicals No, Japan:1-391

CAS No.:7664-41-7

MW:17.03

ECNO:231-635-3

Ingredient name:Water

Content (%):98

Chemical formula:H<sub>2</sub>O

CAS No.:7732-18-5

MW:18.02

ECNO:231-791-2

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

Note : Ammonia solution (CAS No. 1336-21-6, ECNO. 215-647-6)

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### 4. First-aid measures

Descriptions of first-aid measures

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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.

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### 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media data is not available.

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.

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#### 6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.

Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

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.

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#### 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

Wear protective gloves, protective clothing or face protection.

Wear eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

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

Polyethylene



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## 8. Exposure controls/personal protection

### Control parameters

### 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.

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## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless, Clear

Odor: Irritant odor

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: 0.99g/cm<sup>3</sup>

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.

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## 10. Stability and Reactivity

### Reactivity

Not available.

### Chemical stability

Stable under normal storage/handling conditions.

### Possibility of hazardous reactions

(As Aqueous ammonia)

Reacts with many heavy metals and heavy metal salts. This produces explosive compounds.

Attacks many metals. This produces flammable/explosive gas (hydrogen). It reacts violently

with acids. This generates fire and explosion hazard. Decomposes on heating. This produces

toxic and corrosive fumes including ammonia and nitrogen oxides. This generates toxic

hazard. (ICSC 0215)

### Conditions to avoid



Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Acids, Heavy metal, Heavy metal salts, Metals

Hazardous decomposition products

Nitrogen oxides, Explosive compounds, Hydrogen, Ammonia

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## 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Ammonia)

rat LD50=350mg/kg (SIDS, 2008)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Ammonia)

rabbit corrosive (SIDS, 2008)

Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Ammonia)

corrosive (SIDS, 2008)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Ammonia)

CNS; respiratory apparatus (HSDB, Access on Jun. 2014; ATSDR, 2004)

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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## 12. Ecological Information

Ecotoxicity

Aquatic toxicity

Harmful to aquatic life

Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]

(Ammonia)

Crustacea (Mysidopsis bahia) LC50=2.81-98.9mg total NH3/L/96hr (SIDS, 2007)

Aquatic chronic toxicity component(s) data

[GHS Cat. Japan, base data]

(Ammonia)

Crustacea (Mysidopsis bahia) NOEC=3.47mg total NH3/L/32days (SIDS, 2007)

Water solubility

(Ammonia)

miscible (ICSC, 1995)

Persistence and degradability



Persistence and degradability data is not available.  
Bioaccumulative potential  
Bioaccumulative potential data is not available.  
Mobility in soil  
Mobility in soil data is not available.  
Other adverse effects  
Ozone depleting chemical data is not available.

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### 13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging

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.

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### 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. Y

Ammonia

Non Noxious Liquid ; Cat. OS

Water

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### 15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US major regulations

Chemicals listed in TSCA Inventory

Ammonia; Water

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

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### 16. Other information

GHS classification and labelling

Skin Irrit. 2: H315 Causes skin irritation

Eye Dam. 1: H318 Causes serious eye damage

STOT SE 2: H371 May cause damage to organs after single 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

Hazards were evaluated as ammonia solution.

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).