



## Safety Data Sheet

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

**Product identifier:**

Product name: 0.0125mol/L(N/40)-Sodium oxalate solution  
SDS No. : A0179E-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 (Inhalation): Category 2  
Skin corrosion/irritation: Category 1  
Serious eye damage/eye irritation: Category 1  
Specific target organ toxicity – single exposure: Category 1(respiratory apparatus/system)  
Specific target organ toxicity – repeated exposure: Category 1(respiratory apparatus/system)

**ENVIRONMENT HAZARDS**

Hazardous to the aquatic environment (Acute): Category 3  
Hazardous to the aquatic environment (Long-term): Category 1

(Note) GHS classification without description: Not classified/Classification not possible

**Label elements**

Signal word: Danger

**HAZARD STATEMENT**

Fatal if inhaled  
Causes severe skin burns and eye damage  
Causes serious eye damage  
Causes damage to organs after single exposure(respiratory apparatus/system)  
Causes damage to organs through prolonged or repeated exposure(respiratory apparatus/system)  
Harmful to aquatic life  
Very toxic to aquatic life with long lasting effects

**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**

Collect spillage.

Get medical advice/attention if you feel unwell.

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: 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.

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

Ingredient name:Manganese(II) sulfate

Content (%):0.0046

Chemical formula:MnO4S

Chemicals No, Japan:1-477

CAS No.:7785-87-7

ECNO:232-089-9

Ingredient name:Sodium oxalate

Content (%):0.12

Chemical formula:Na2C2O4

Chemicals No, Japan:2-922

CAS No.:62-76-0

MW:134.00

ECNO:200-550-3

Ingredient name:Sulfuric acid

Content (%):48

Chemical formula:H2O4S

Chemicals No, Japan:1-430

CAS No.:7664-93-9

MW:98.1

ECNO:231-639-5

Ingredient name:Water

Content (%):52

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.



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#### 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.

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.

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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

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.

#### 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.

Wash contaminated clothing before reuse.

### Storage

#### Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Keep under lock and key.

#### Container and packaging materials for safe handling

Glass

Polyethylene

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## 8. Exposure controls/personal protection

### Control parameters

#### Adopted value

(Sulfuric acid)

ACGIH(2000) TWA: 0.2mg/m<sup>3</sup>(T) (Pulm func)

(Manganese(II) sulfate)

ACGIH(2012) TWA: 0.02mg-Mn/m<sup>3</sup>(R);

TWA: 0.1mg-Mn/m<sup>3</sup>(I) (CNS impair)

#### OSHA-PEL

(Manganese(II) sulfate)

STEL: C 5mg-Mn/m<sup>3</sup>

(Sulfuric acid)

TWA: 1mg/m<sup>3</sup>

### 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: 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: 1.37g/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

(Sulfuric acid)

Decomposes on heating. This produces toxic and corrosive gases including sulfur oxides. The substance is a strong oxidant. It reacts with combustible and reducing materials and organic materials. This generates fire and explosion hazard. The substance is a strong acid. It reacts violently with bases and is corrosive to most common metals forming a flammable/explosive gas (hydrogen). Reacts violently with water. This generates heat and fire or explosion hazard. Attacks many plastics. (ICSC 0362)

### Conditions to avoid

- Contact with incompatible materials.
- Contact with fire source.

### Incompatible materials

Bases, Reducing agents, Combustible materials, Organic materials, Metals

### Hazardous decomposition products

Sulfur oxides, Hydrogen



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## 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Oral)

[GHS Cat. Japan, base data]

(Sulfuric acid)

rat LD50=2140mg/kg (SIDS, 2001)

(Manganese(II) sulfate)

rat LD50=782mg/kg (ATSDR, 2012)

##### Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]

(Sulfuric acid)

mist: rat LC50=0.347mg/L/4hr (SIDS, 2001)

#### Irritant properties

##### Skin corrosion/irritation

[GHS Cat. Japan, base data]

(Sulfuric acid)

corrosive substance

##### Serious eye damage/irritation

[GHS Cat. Japan, base data]

(Sodium oxalate)

rabbit (ECETOC TR48(2), 1998)

(Sulfuric acid)

human severe damage (ATSDR, 1998)

Allergenic and sensitizing effects data is not available.

#### Carcinogenicity

(Sulfuric acid)

IARC-Gr.1 : Carcinogenic to humans

(Manganese(II) sulfate)

ACGIH-A4(2012) : Not Classifiable as a Human Carcinogen (Inorganic Mn)

(Sulfuric acid)

ACGIH-A2(2000) : Suspected Human Carcinogen

#### STOT

##### STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]

(Sulfuric acid)

respiratory apparatus/system (ATSDR, 1998)

##### STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]

(Sulfuric acid)

respiratory apparatus/system (ATSDR, 1998)

Aspiration hazard data is not available.

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## 12. Ecological Information

### Ecotoxicity

#### Aquatic toxicity

Harmful to aquatic life

Very toxic to aquatic life with long lasting effects

#### Aquatic acute toxicity component(s) data

[GHS Cat. Japan, base data]



(Manganese(II) sulfate)

Crustacea (Daphnia magna) EC50=8.3mg/L/48hr (8.28mg-Mn/L, calc.) (MOE Japan, 2008; NITE primary risk assessment, 2008)

(Sulfuric acid)

Fish (bluegill) LC50(pH3.25-3.5)=16-28mg/L/96hr (OECD SIDS, 2001)

Aquatic chronic toxicity component(s) data

[GHS Cat. Japan, base data]

(Manganese(II) sulfate)

Fish (Rainbow trout) NOEC (Survival rate)=2.1mg/L/100days (0.77mg-Mn/L Conv.) (NITE primary risk assessment, 2008)

(Sulfuric acid)

Fish (Gambusia affinis) NOEC(pH6.0)=0.025mg/L/45days (OECD SIDS, 2001)

Water solubility

(Sulfuric acid)

miscible (ICSC, 2000)

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

UN No.: 2796

Proper Shipping Name :

SULPHURIC ACID with not more than 51% acid or BATTERY FLUID, ACID

Class or division : 8

Packing group : II

ERG GUIDE No.: 157

IMDG Code (International Maritime Dangerous Goods Regulations)

UN No.: 2796

Proper Shipping Name :

SULPHURIC ACID with not more than 51% acid or BATTERY FLUID, ACID

Class or division : 8

Packing group : II

IATA Dangerous Goods Regulations

UN No.: 2796

Proper Shipping Name :

SULPHURIC ACID with not more than 51% acid or BATTERY FLUID, ACID

Class or division : 8

Hazard labels : Corrosive

Packing group : II

Environmental hazards



MARPOL Annex III – Prevention of pollution by harmful substances

Marine pollutants (yes/no) : yes

MARPOL Annex V – Prevention of pollution by garbage discharge

Specific target organ toxicity – repeated exposure: cat.1

Sulfuric acid

Hazardous to the aquatic environment – long-term hazard: cat.1, 2

Sulfuric acid

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code

Noxious Liquid ; Cat. Y

Sulfuric acid

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

Sodium oxalate; Sulfuric acid; Water; Manganese(II) sulfate

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

Acute Tox. 2: H330 Fatal if inhaled

Skin Corr. 1: H314 Causes severe skin burns and eye damage

Eye Dam. 1: H318 Causes serious eye damage

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 3: H402 Harmful to aquatic life

Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects

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).