



Safety Data Sheet

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

Product identifier:

Product name: Ethylenediaminetetraacetic acid tetrasodium salt, 2-hydrate
SDS No. : 2929E-2

Relevant identified uses of the substance or mixture and uses advised against
Research and Development

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku, Osaka, JAPAN
Division: Chemical Safety Management Department
Telephone number: +81-6-6946-8061
FAX: +81-6-6946-1607
e-mail address: kagakuhinanzenkanri@kishida.co.jp

Section 2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

HEALTH HAZARDS

Acute toxicity (Oral): Category 4

Serious eye damage/eye irritation: Category 2

Carcinogenicity: Category 2

Specific target organ toxicity – single exposure: Category 2 (systemic toxicity)

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

Label elements



Signal word: Warning

HAZARD STATEMENT

Harmful if swallowed

Causes serious eye irritation

Suspected of causing cancer

May cause damage to organs (systemic toxicity)

PRECAUTIONARY STATEMENT

Prevention

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

Wash contaminated parts thoroughly after handling.

Wear eye protection/face protection.

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

Response

IF exposed or concerned: 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: Call a POISON CENTER/doctor/physician if you feel unwell.

IF SWALLOWED: Rinse mouth.

Disposal



Ethylenediaminetetraacetic acid tetrasodium salt, 2-hydrate, 2929E-2, 2023/01/20

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

Section 3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name: Ethylenediaminetetraacetic acid tetrasodium salt, 2-hydrate

Content (%): 97(min)

Chemical formula: $C_{10}H_{12}N_2O_8Na_4 \cdot 2H_2O$

Chemicals No, Japan: 2-1265

CAS No.: 10378-23-1

MW: 416.20

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

Impurities

Trisodium 2,2',2''-nitrilotriacetate 3.0% (CAS No. 5064-31-3)

Section 4. First-aid measures

Descriptions of first-aid measures

General measures

IF exposed or concerned: Get medical advice/attention.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.

Call a POISON CENTER/doctor/physician if you feel unwell.

IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or 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.

Call a POISON CENTER/doctor/physician if you feel unwell.

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Unsuitable extinguishing media

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 resistant or flame 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.

**Section 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.

Avoid raising dust.

Methods and materials for containment and cleaning up

Sweep up, place in a bag and hold for waste disposal.

Preventive measures for secondary accident

Collect spillage.

Section 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, hot surfaces, sparks, open flames and other ignition sources. 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.

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

Section 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



Ethylenediaminetetraacetic acid tetrasodium salt, 2-hydrate, 2929E-2, 2023/01/20

- Wear respiratory protection.
- Hand protection
 - Wear protective gloves.
- Eye protection
 - Wear eye/face protection.

Section 9. Physical and Chemical Properties

Information on basic physical and chemical properties

- Physical state: Crystals or crystalline powder
- Color: White
- Odor: None
- Melting point/Freezing point data is not available.
- Boiling point or initial boiling point data is not available.
- Boiling range data is not available.
- Flammability (gases, liquids and solids) data is not available.
- Lower and upper explosion limit/flammability limit data is not available.
- Flash point data is not available.
- Auto-ignition temperature data is not available.
- Decomposition temperature data is not available.
- pH data is not available.
- Kinematic viscosity data is not available.
- Solubility:
 - Solubility in water: Soluble
 - n-Octanol/water partition coefficient data is not available.
 - Vapor pressure data is not available.
 - Density and/or relative density data is not available.
 - Relative vapor density (Air=1) data is not available.
 - Particle characteristics data is not available.

Section 10. Stability and Reactivity

Reactivity

Not available.

Chemical stability

Stable under normal storage/handling conditions.

Possibility of hazardous reactions

(As ethylenediaminetetraacetic acid tetrasodium salt, anhydrate)

Dust explosion possible if in powder or granular form, mixed with air.

Decomposes on heating. This produces toxic fumes including nitrogen oxides. Reacts with strong bases and strong oxidants. (ICSC 1688)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Strong bases, Strong oxidizing agents

Hazardous decomposition products

Carbon oxides, Nitrogen oxides



Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Data for components of the product]

[GHS Cat. Japan, base data]

(Trisodium 2,2',2''-nitrilotriacetate)

rat LD50=1100mg/kg (MOE risk assessment vol.4, 2005)

[Company proprietary data]

(Ethylenediaminetetraacetic acid tetrasodium salt, 2-hydrate)

(As ethylenediaminetetraacetic acid tetrasodium salt, anhydrate)

rat LD50=1700-2700mg/kg (EU-RAR, 2004)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[Data for components of the product]

[GHS Cat. Japan, base data]

(Trisodium 2,2',2''-nitrilotriacetate)

rabbit irritation (IUCLID, 2000)

[Company proprietary data]

(Ethylenediaminetetraacetic acid tetrasodium salt, 2-hydrate)

(As ethylenediaminetetraacetic acid tetrasodium salt, anhydrate)

Category 2A

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

[Data for components of the product]

[GHS Cat. Japan, base data]

(Trisodium 2,2',2''-nitrilotriacetate)

cat.2; IARC Gr. 2B (IARC 73, 1999 et al.)

[IARC]

(Trisodium 2,2',2''-nitrilotriacetate)

Group 2B : Possibly carcinogenic to humans

[EU]

(Trisodium 2,2',2''-nitrilotriacetate)

Category 2; Substances suspected human carcinogens

Reproductive toxicity data is not available.

Specific target organ toxicity (STOT)

STOT-single exposure

[Data for components of the product]

[cat.2]

[GHS Cat. Japan, base data]

(Trisodium 2,2',2''-nitrilotriacetate)

systemic toxicity (IUCLID, 2000)

[Company proprietary data]

(Ethylenediaminetetraacetic acid tetrasodium salt, 2-hydrate)

(As ethylenediaminetetraacetic acid tetrasodium salt, anhydrate) systemic toxicity (EU-RAR, 2004)

STOT-repeated exposure

[Data for components of the product]

[cat.2]

[GHS Cat. Japan, base data]

(Trisodium 2,2',2''-nitrilotriacetate)



Ethylenediaminetetraacetic acid tetrasodium salt, 2-hydrate, 2929E-2, 2023/01/20

kidneys (MOE risk assessment vol.4, 2005)

Aspiration hazard data is not available.

Information on other hazards

May cause lung disorders by massive inhalation of powdered substance.

-e.g. fibrosis of lung tissue, cough, sputum, breath shortness, dyspnea, decline of lung function, interstitial lung disease, pneumothorax

Section 12. Ecological Information

Toxicity

Aquatic toxicity

[Data for components of the product]

Hazardous to the aquatic environment, short-term (acute)

[GHS Cat. Japan, base data]

(Trisodium 2,2',2''-nitrilotriacetate)

Crustacea (Gammaridea) EC50=98mg/L/48hr; Fish (rainbow trout) LC50=98mg/L/96hr (EU, 2005)

Water solubility

(Trisodium 2,2',2''-nitrilotriacetate)

93 g/100 ml (20°C) (ICSC, 2003)

Persistence and degradability

[Data for components of the product]

(Trisodium 2,2',2''-nitrilotriacetate)

Rapidly degradable (DOC_Degradation : 100% (EU, 2005))

Bioaccumulative potential

[Data for components of the product]

(Trisodium 2,2',2''-nitrilotriacetate)

log Pow=-2.62 (cal.) (ICSC, 2003)

Mobility in soil

Mobility in soil data is not available.

Other adverse effects

Ozone depleting chemical data is not available.

Section 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

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

Section 14. Transport Information

UN Number or ID Number : Not applicable

IMDG Code (International Maritime Dangerous Goods Regulations)

UN Number or ID Number : Not applicable

IATA (Dangerous Goods Regulations)

UN Number or ID Number : Not applicable

Environmental hazards

Marine pollutants (yes/no) : no

**Section 15. Regulatory Information**

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

U.S. Toxic Substances Control Act (TSCA) Inventory

Chemicals listed in TSCA Inventory

Ethylenediaminetetraacetic acid tetrasodium salt, 2-hydrate; Trisodium
2,2',2''-nitrilotriacetate

Other regulatory information

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

Section 16. Other information

GHS classification and labelling

Acute toxicity, Category 4: H302 Harmful if swallowed

Serious eye damage/eye irritation, Category 2: H319 Causes serious eye irritation

Carcinogenicity, Category 2: H351 Suspected of causing cancer

STOT – single exposure, Category 2: H371 May cause damage to organs

References and sources for data

Globally Harmonized System of classification and labelling of chemicals, UN

Recommendations on the TRANSPORT OF DANGEROUS GOODS 21th edit., 2019 UN

IMDG Code, 2020 Edition (Incorporating Amendment 40-20)

IATA Dangerous Goods Regulations (62nd Edition) 2021

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2022 TLVs and BEIs. (ACGIH)

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 2021).