



## Safety Data Sheet

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

#### Product identifier:

Product name: Triethylborane-1,3-diaminopropane complex

SDS No. : 7955E-3

#### 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

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### Section 2. Hazards identification

#### GHS classification and label elements of the product

#### Classification of the substance or mixture

##### PHYSICAL AND CHEMICAL HAZARDS

Flammable liquids: Category 4

##### HEALTH HAZARDS

Acute toxicity (Dermal): Category 4

Skin corrosion/irritation: Category 1

Serious eye damage/eye irritation: Category 1

Skin sensitization: Category 1

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

#### Label elements



Signal word: Danger

#### HAZARD STATEMENT

Combustible liquid

Harmful in contact with skin

Causes severe skin burns and eye damage

May cause an allergic skin reaction

#### PRECAUTIONARY STATEMENT

##### Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

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

Wash contaminated parts thoroughly after handling.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

##### Response

In case of fire: Use appropriate media to extinguish.

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

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF ON SKIN: Wash with plenty of soap and water.



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.

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 SWALLOWED: Rinse mouth. Do NOT induce vomiting.

#### Storage

Store in a well-ventilated place.

#### Disposal

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

#### Specific Physical and Chemical hazards

Heating may cause fire.

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### Section 3. Composition/information on ingredients

#### Mixture/Substance selection:

##### Substance

Ingredient name: Triethylborane-1,3-diaminopropane complex

Content (%): 90-96

Chemical formula:  $(CH_3CH_2)_3B:NH_2-(CH_2)_3-NH_2$

CAS No.: 148861-07-8

MW: 172.12

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

#### Impurities

1,3-Diaminopropane 4.0-10% (CAS No. 109-76-2)

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### Section 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/doctor/physician if you feel unwell.

##### IF ON SKIN (or hair)

Take off immediately all contaminated clothing. Rinse skin with water or 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. Do NOT induce vomiting.

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

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### Section 5. Fire-fighting measures

#### Extinguishing media

##### Suitable extinguishing media

In case of fire, use foam, dry powder, CO<sub>2</sub> to extinguish.

##### Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment

Sprinkler equipment

Dry-powder firefighting equipment – other (except for phosphate etc., hydrogen carbonate)



etc.)

Straight stream water extinguisher

Water mist extinguisher

Reinforcing liquid jet extinguisher

Dry-powder extinguisher – other (except for phosphate etc., hydrogen carbonate etc.)

Bucket of water or tank of water

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.

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## 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.

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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## 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/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.

Contaminated work clothing should not be allowed out of the workplace.

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

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**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

Wear respiratory protection.

## Hand protection

Wear protective gloves.

## Eye protection

Wear eye/face protection.

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**Section 9. Physical and Chemical Properties**

## Information on basic physical and chemical properties

Physical state: Liquid

Color: Colorless to yellow

Odor: Characteristic odor

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: (Triethylborane-1,3-diaminopropane complex) 90°C

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: Insoluble

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.

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**Section 10. Stability and Reactivity**

## Reactivity

Not available.

## Chemical stability

Stable under normal storage/handling conditions.

## Possibility of hazardous reactions



Not available.

Conditions to avoid

Contact with fire source.

Incompatible materials

Not available.

Hazardous decomposition products

Carbon oxides, Nitrogen oxides, Boron compounds

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## Section 11. Toxicological Information

### Information on toxicological effects

#### Acute toxicity

##### Acute toxicity (Dermal)

[Data for components of the product]

[Company proprietary data]

(Triethylborane-1,3-diaminopropane complex)

Category 4

#### Irritant properties

##### Skin corrosion/irritation

[Data for components of the product]

[Company proprietary data]

(Triethylborane-1,3-diaminopropane complex)

Category 1A

##### Serious eye damage/irritation

[Data for components of the product]

[Company proprietary data]

(Triethylborane-1,3-diaminopropane complex)

Category 1

#### Sensitization

##### Skin sensitization

[Data for components of the product]

[Company proprietary data]

(Triethylborane-1,3-diaminopropane complex)

Category 1

Mutagenic effects data is not available.

Carcinogenic effects data is not available.

Reproductive toxicity data is not available.

Specific target organ toxicity (STOT)

STOT-single exposure data is not available.

STOT-repeated exposure data is not available.

Aspiration hazard data is not available.

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## 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]

(1,3-Diaminopropane)

Fish (*Pimephales promelas*) LC50=1190mg/L/96hr (Aquire, 2013)

#### Water solubility

(1,3-Diaminopropane)

not poorly water-soluble (entirely mixable at 20°C, GESTIS, 2013)

**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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**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.

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**Section 14. Transport Information**

UN Number or ID Number : 1760

UN Proper Shipping Name :

CORROSIVE LIQUID, N.O.S.

Class or division (Transport hazard class) : 8

Packing group : I

ERG GUIDE No.: 154

Special provisions No.: 274

**IMDG Code (International Maritime Dangerous Goods Regulations)**

UN Number or ID Number : 1760

UN Proper Shipping Name :

CORROSIVE LIQUID, N.O.S.

Class or division (Transport hazard class) : 8

Packing group : I

Special provisions No.: 274

**IATA (Dangerous Goods Regulations)**

UN Number or ID Number : 1760

UN Proper Shipping Name :

CORROSIVE LIQUID, N.O.S.

Class or division (Transport hazard class) : 8

Hazard labels : Corrosive

Packing group : I

Special provisions No.: A3; A803

**Environmental hazards**

Marine pollutants (yes/no) : no

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**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

1,3-Diaminopropane

**Other regulatory information**

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



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**Section 16. Other information****GHS classification and labelling**

Flammable liquids, Category 4: H227 Combustible liquid

Acute toxicity, Category 4: H312 Harmful in contact with skin

Skin corrosion/irritation, Category 1: H314 Causes severe skin burns and eye damage

Serious eye damage/eye irritation, Category 1: H318 Causes serious eye damage

Skin sensitization, Category 1: H317 May cause an allergic skin reaction

**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).