



## Safety Data Sheet

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

Product identifier:

Product name: 2,4,6,-Trinitrophenol

SDS No. : 80802E-4

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

Explosives: Division 1.1

HEALTH HAZARDS

Acute toxicity (Oral): Category 3

Serious eye damage/eye irritation: Category 2B

Skin sensitization: Category 1

Specific target organ toxicity – single exposure: Category 1 (blood system, liver, central nervous system, kidneys)

Specific target organ toxicity – single exposure: Category 3 (Respiratory tract irritation)

Specific target organ toxicity – repeated exposure: Category 1 (blood system)

Specific target organ toxicity – repeated exposure: Category 2 (testis, liver)

ENVIRONMENT HAZARDS

Hazardous to the aquatic environment, short-term (acute): Category 3

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

Label elements



Signal word: Danger

HAZARD STATEMENT

H201 Explosive; mass explosion hazard

H301 Toxic if swallowed

H320 Causes eye irritation

H317 May cause an allergic skin reaction

H370 Causes damage to organs (blood system, liver, central nervous system, kidneys)

H335 May cause respiratory irritation

H372 Causes damage to organs through prolonged or repeated exposure (blood system)

H373 May cause damage to organs through prolonged or repeated exposure (testis, liver)



H402 Harmful to aquatic life

**PRECAUTIONARY STATEMENT****Prevention**

- P273 Avoid release to the environment.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P230 Keep wetted with appropriate liquid.  
P234 Keep only in original packaging.  
P240 Ground and bond container and receiving equipment.  
P250 Do not subject to grinding/shock/friction.  
P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P271 Use only outdoors or in a well-ventilated area.  
P264 Wash contaminated parts thoroughly after handling.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P270 Do not eat, drink or smoke when using this product.

**Response**

- P370 + P372 + P380 + P373 In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.  
P314 Get medical advice/attention if you feel unwell.  
P312 Call a POISON CENTER/doctor/physician if you feel unwell.  
P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/physician.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/attention.  
P330 IF SWALLOWED: Rinse mouth.  
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

**Storage**

- P401 Store in accordance with local/national regulation.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

**Disposal**

- P501 Dispose of contents/container in accordance with local/national regulation.

**Specific adverse human health effects**

See "11. Toxicological Information".

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**Section 3. Composition/information on ingredients**

Mixture/Substance selection:

Substance

| Ingredient name       | Content (%) | CAS No. | ENCS  | Chemical formula  |
|-----------------------|-------------|---------|-------|---|
| 2,4,6,-Trinitrophenol | about 80    | 88-89-1 | 3-823 | HOC <sub>6</sub> H <sub>2</sub> (NO <sub>2</sub> ) <sub>3</sub> |

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



Water about 20% (CAS No.7732-18-5)

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#### Section 4. First-aid measures

##### Descriptions of first-aid measures

###### General measures

Get medical advice/attention if you feel unwell.

###### IF INHALED

Remove person to fresh air and keep comfortable for breathing.

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

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

###### IF ON SKIN

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.

Immediately call a POISON CENTER/doctor/physician.

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

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#### Section 5. Fire-fighting measures

##### Extinguishing media

###### Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

In case of fire, use water mist or loaded liquid, foam, dry sand to extinguish.

\*Fire Service Act Group 5 Hazardous Materials

###### Unsuitable extinguishing media

Carbon Dioxide/ Halon Extinguishing System

Dry Chemical Extinguishing System-Using Phosphates, etc./Using Hydrogen Carbonates , etc./Others (except for phosphates etc., Hydrogen Carbonates etc.)

Fire Extinguisher Discharging Carbon Dioxide/Halogenide

Fire Extinguisher Discharging Dry Extinguishing agents- Using Phosphates, etc./Using Hydrogen Carbonates, etc./Others (except for phosphates etc., Hydrogen Carbonates etc.)

\*Cabinet Order Concerning the Control of Hazardous Materials (Attached Table 5) Group 5 Hazardous Materials

##### Specific hazards arising from the substance or mixture

Fire may produce irritating, corrosive and/or toxic gases.

Runoff from fire control or dilution water may cause pollution.

See "10.Stability and Reactivity".

##### Advice for firefighters

###### Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives.

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 a full facepiece operated in the positive pressure mode.

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**Section 6. Accidental release measures**

Personnel precautions, protective equipment and emergency procedures

Keep unauthorized personnel away.  
Ventilate area until material pick up is complete.  
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses, low areas or rivers. To be careful not discharged to the environment without being properly handled waste water contaminated.

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.

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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.

Ground and bond container and receiving equipment.

Do not subject to grinding/shock/friction.

(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/eye protection/face protection.

Wash hands et al thoroughly after handling.

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.

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 wetted with appropriate liquid.



Keep container tightly closed.  
Store in accordance with local/national regulation.  
Store locked up. (P405)  
Store in a cool, dry place. Do not store in direct sunlight.  
Storage in accordance with local/national regulation.  
Container and packaging materials for safe handling  
Keep only in original packaging.  
Use closed unbreakable containers.

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## Section 8. Exposure controls/personal protection

### Control parameters

Control value and Concentration standard value

Not established

Adopted value

ACGIH

TWA: 0.1mg/m<sup>3</sup> (Skin sens; dermatitis; eye irr)

### 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

Recommend to use protective equipment in conformity with the standards.

Use appropriate protective equipment in accordance with local/national regulation.

#### Respiratory protection

Wear respiratory protection (dust-proof mask/gas mask). Select chemical cartridge corresponding to type of gases when using a gas mask.

#### Hand protection

Wear impervious protective glove.

#### Eye protection

Wear eye/face protection. Wear safety goggles in cases gas is generated.

#### Skin and body protection

Wear protective clothing.

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## Section 9. Physical and Chemical Properties

### Information on basic physical and chemical properties

Physical state: Crystals

Color: Colorless to yellow

Odor: Odorless

Melting point/Freezing point: 122°C

Boiling point or initial boiling point: (2,4,6,-Trinitrophenol)(Decomposes) 300°C

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: (2,4,6,-Trinitrophenol)(C.C.) 150°C

Auto-ignition temperature: (2,4,6,-Trinitrophenol)300°C

Decomposition temperature data is not available.

pH data is not available.



Kinematic viscosity data is not available.

Solubility:

Solubility in water: 1.4 g/100 ml

Solubility in solvent data is not available.

n-Octanol/water partition coefficient: log Pow2.03

Vapor pressure: Negligible (20°C)

Density and/or relative density: 1.8 g/cm<sup>3</sup>

Relative vapor density (Air=1): 7.9

Particle characteristics data is not available.

Other information

Other information 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

As a result of flow, agitation, etc., electrostatic charges can be generated. Dust explosion possible if in powder or granular form, mixed with air.

May decompose on shock, friction or concussion. May explode on heating. Mixtures with copper, lead, mercury, zinc and other metals are shock-sensitive. On combustion, forms toxic carbon and nitrogen oxides. Reacts with oxidants and reducing agents. (ICSC 0316)

Conditions to avoid

Contact with incompatible materials.

Contact with fire source.

Incompatible materials

Oxidizing agents, Reducing agents

Hazardous decomposition products

Carbon oxides, Nitrogen oxides

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## Section 11. Toxicological Information

Information on toxicological effects

Acute toxicity

Acute toxicity (Oral)

[Product]

Category 3, Toxic if swallowed

[Data for components of the product]

[NITE-CHRIP]

rat LD50: 200 mg/kg (source: NITE)

Irritant properties

Skin corrosion/irritation data is not available.

Serious eye damage/irritation

[Product]

Category 2B, Causes eye irritation

[Data for components of the product]

[NITE-CHRIP]

Category 2B (source: NITE)

**Sensitization****Skin sensitization****[Product]**

Category 1, May cause an allergic skin reaction

**[Data for components of the product]****[NITE-CHRIP]**

Category 1 (source: NITE)

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****[Product]**

Category 1, Causes damage to organs

Category 3, May cause respiratory irritation

**[Data for components of the product]****[NITE-CHRIP]**

Category 1 (blood system, liver, central nervous system, kidneys), Category 3 (Respiratory tract irritation) (source: NITE)

**STOT-repeated exposure****[Product]**

Category 1, Causes damage to organs through prolonged or repeated exposure

Category 2, May cause damage to organs through prolonged or repeated exposure

**[Data for components of the product]****[NITE-CHRIP]**

Category 1 (blood system), Category 2 (testis, liver) (source: NITE)

Aspiration hazard data is not available.

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**Section 12. Ecological Information****Toxicity****Aquatic toxicity****[Product]**

Category 3, Harmful to aquatic life

**[Data for components of the product]**

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

**[NITE-CHRIP]**Crustacea (*Daphnia magna*) 48-hour EC50: 85 mg/L (source: NITE)Algae (*Desmodesmus subspicatus*) 72-hour ErC50: > 500 mg/L (source: NITE)Fish (*Oncorhynchus mykiss*) 96-hour LC50: 109.6 mg/L (source: NITE)

Hazardous to the aquatic environment, long-term (chronic)

**[NITE-CHRIP]**Crustacea (*Daphnia magna*) 21-day NOEC: 5 mg/L (source: NITE)**Water solubility**

1.4 g/100 mL (source: ICSC, 2008)

**Persistence and degradability****[Data for components of the product]**

Not rapidly degradable (Degradation rate: 23% (by BOD)) (source: NITE)

**Bioaccumulative potential****[Data for components of the product]**



log Pow: 2.03 (source: ICSC, 2008)  
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  
Avoid release to the environment.  
Dispose of contents/container as industrial waste. Accordance with local/national regulation.

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**Section 14. Transport Information**

UN Number or ID Number : 0154  
UN Proper Shipping Name :  
TRINITROPHENOL (PICRIC ACID), dry or wetted with less than 30% water, by mass  
Class or division (Transport hazard class) : 1.1D  
ERG GUIDE No.: 112  
IMDG Code (International Maritime Dangerous Goods Regulations)  
UN Number or ID Number : 0154  
UN Proper Shipping Name :  
TRINITROPHENOL (PICRIC ACID), dry or wetted with less than 30% water, by mass  
Class or division (Transport hazard class) : 1.1D  
IATA (Dangerous Goods Regulations)  
UN Number or ID Number : 0154  
UN Proper Shipping Name :  
TRINITROPHENOL (PICRIC ACID), dry or wetted with less than 30% water, by mass  
Class or division (Transport hazard class) : 1.1D  
FORBIDDEN  
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  
Applicable  
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**

References and sources for data  
Globally Harmonized System of classification and labelling of chemicals, UN





Recommendations on the TRANSPORT OF DANGEROUS GOODS 23rd edit., 2023 UN  
IMDG Code, 2024 Edition (Incorporating Amendment 42-24)

IATA Dangerous Goods Regulations (66th Edition) 2025

2020 EMERGENCY RESPONSE GUIDEBOOK (US DOT)

2025 TLVs and BEIs. (ACGIH)

JIS Z 7252 : 2019

JIS Z 7253 : 2019

2024 Recommendation on TLVs (JSOH)

Supplier's data/information

#### General Disclaimer

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Unauthorized translation or modification is prohibited.

Please provide SDS to customers for selling or transferring.

All chemicals have unknown hazard. Handle the product with care.

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 Data published in Japan (National Institute of Technology and Evaluation (NITE) Chemical Risk Information Platform (NITE-CHRIP), up to FY2023).