

SAFETY DATA SHEET

Revision Date 25.12.2018

1. Product name and details of the supplier of the safety datasheet

Product name :Thallium(I) nitrate

Company : Chikamochi Pure Chemical Co. , Ltd.
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JAPAN

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2. HAZARDS IDENTIFICATION

【GHS Classification】

Oxidizing solids (Category 3)
Acute toxicity, Oral (Category 2)
Acute toxicity, Inhalation (Category 2)
Acute aquatic toxicity (Category 2)
Chronic aquatic toxicity (Category 2)

【GHS Label elements, including precautionary statements】

Pictogram or Symbol



Signal word : Danger

Hazard statement(s)

H272	May intensify fire; oxidizer
H300 + H330	Fatal if swallowed or if inhaled.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention

P210	Keep away from heat/sparks/open flames /hot surfaces.
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	No smoking.
P220	Keep/Store away from clothing/ combustible materials.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Response	
P301+P310+P330+P310	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/ doctor.
P304+P340+P310	IF INHALED: Remove person to fresh air and keep comfortable for breathing.Immediately call a POISON CENTER/doctor.
P370+P378	In case of fire: Use dry powder or dry sand to extinguish.

【Other hazards】 : none

3. Composition/information on ingredients

【Substances】

Formula	: TlNO_3
Molecular weight	: 266.39 g/mol
CAS No	: 10102-45-1

Component	Classification	Concentration
Thallium nitrate		
	Ox. Sol. 3; Acute Tox.2; Aquatic Acute 2; Aquatic Chronic 2; H272, H300, H330, H401,H411	≥ 99%

4. Description of first aid measures

【General advice】

Consult a physician. Show this safety data sheet to the doctor in attendance.

【If inhaled】

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Consult a physician.

【In case of skin contact】

Wash off with soap and plenty of water. Take victim immediately to hospital.Consult a physician.

【In case of eye contact】

Flush eyes with water as a precaution.

【If swallowed】

Never give anything by mouth to an unconscious person. Rinse mouth with water.

Consult a physician.

【Most important symptoms and effects, both acute and delayed】

The most characteristic symptom of thallium exposure is alopecia (loss of hair). Cutaneous effects may include dry, scaly skin and impairment of nail growth often resulting in the appearance of crescent-shaped strips across fingernails and toenails (Mees' line). Other symptoms in acute poisoning relate chiefly to the gastrointestinal tract, nervous system, skin, eyes, and cardiovascular system. Acute poisoning results in swelling of the feet and legs, arthralgia, vomiting, insomnia, hyperesthesia and paresthesia of the hands and feet, mental confusion, polyneuritis with severe pain in the legs and loins, partial paralysis of the legs, angina-like pains, nephritis, wasting and weakness, and lymphocytosis and eosinophilia. In chronic poisoning, central and peripheral nervous system abnormalities may persist including ataxia, tremor, incoordination, paralysis of extremities, endocrine disorders, memory loss, and psychoses may develop. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

【Indication of any immediate medical attention and special treatment needed】

No data available

5. Firefighting measures

【Suitable extinguishing media】

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

【Special hazards arising from the substance or mixture】

No data available

【Advice for firefighters】

Wear self-contained breathing apparatus for firefighting if necessary.

【Further information】

Use water spray to cool unopened containers.

6. Accidental release measures

【Personal precautions, protective equipment and emergency procedures】

Wear respiratory protection. Avoid dust formation. Avoid breathing Vapours, mist or gas.

Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

【Environmental precautions】

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

【Methods and materials for containment and cleaning up】

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

【Reference to other sections】

For disposal see section 13.

7. Handling and storage

【Precautions for safe handling】

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition – No smoking. Keep away from heat and sources of ignition.

【Conditions for safe storage, including any incompatibilities】

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
hygroscopic.

【Specific end use(s)】

No data available

8. Exposure controls/personal protection

【Exposure controls】

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

【Personal protective equipment】

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH(US) or EN166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100(US) or type P3(EN 143) respirator cartridge as a backup to engineering controls. If the respirator is the sole means of protection, Use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH(US) or CEN(EU).

9 . Physical and chemical properties

Appearance	Form: solid,
Odour	:No data available
Odour Threshold	:No data available
pH	:No data available
Melting point/freezing point	:Melting point/range:206°C-lit.
Initial boiling point and boiling range	:No data available
Flash point	:Not data applicable
Evaporation rate	:No data available
Flammability (solid, gas)	: No data available
Upper/lower flammability or explosive limits	: No data available
Vapour pressure	: No data available
Vapour density	: No data available
Relative density	: No data available
Water solubility	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available

1 0 . Stability and reactivity

【Reactivity】

No data available

【Chemical stability】

No data available.

【Possibility of hazardous reactions】

No data available

【Conditions to avoid】

No data available.

【Incompatible materials】

Strong reducing agents, Strong acids

【Hazardous decomposition products】

Hazardous decomposition products formed under fire conditions.- Nitrogen oxides (NO_x), thallium oxides. Other decomposition products – No data available

1 1 . Information on toxicological effects

【Acute toxicity】

No data available

【Skin corrosion/irritation】

No data available

【Serious eye damage/eye irritation】

No data available

【Respiratory or skin sensitisation】

No data available

【Germ cell mutagenicity】

No data available

【Carcinogenicity】

No data available

【Reproductive toxicity】

No data available

【Specific target organ toxicity – single exposure】

No data available

【Specific target organ toxicity – repeated exposure】

No data available

【Aspiration hazard】

No data available

【potential health effects】

Inhalation May be fatal if inhaled. May cause respiratory tract irritation.

Ingestion May be fatal if swallowed.

Skin Harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

【Signs and Symptoms of Exposure】

The most characteristic symptom of thallium exposure is alopecia (loss of hair). Cutaneous effects may include dry, scaly skin and impairment of nail growth often resulting in the appearance of crescent-shaped strips across fingernails and toenails (Mees' line). Other symptoms in acute poisoning relate chiefly to the gastrointestinal tract, nervous system, skin, eyes, and cardiovascular system. Acute poisoning results in swelling of the feet and legs, arthralgia, vomiting, insomnia, hyperesthesia and paresthesia of the hands and feet, mental confusion, polyneuritis with severe pain in the legs and loins, partial paralysis of the legs, angina-like pains, nephritis, wasting and weakness, and lymphocytosis and eosinophilia. In chronic poisoning, central and peripheral nervous system abnormalities may persist including ataxia, tremor, incoordination, paralysis of extremities, endocrine disorders, memory loss, and psychoses may develop. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

【Additional Information】

RTECS: XG5950000

1 2 . Ecological information

【Toxicity】

Toxicity to daphnia and LC50 – Daphnia magna (Water flea) – 1.142 mg/l – 24 h
Other aquatic
invertebrates

【Persistence and degradability】

No data available

【Bioaccumulative potential】

No data available

【Mobility in soil】

No data available

【Results of PBT and vPvB assessment】

No data available

【Other adverse effects】

Toxic to aquatic life with long lasting effects.

1 3 . Disposal considerations

【Waste treatment methods】

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

1 4 . Transport information

【UN number】

ADR/RID: 2727

IMDG: 2727

IATA-DGR: 2727

【UN proper shipping name】

ADR/RID: THALLIUM NITRATE

IMDG: THALLIUM NITRATE

IATA-DGR: Thallium nitrate

【Transport hazard class(es)】

ADR/RID: 6.1 (5.1)

IMDG: 6.1 (5.1)

IATA-DGR: 6.1 (5.1)

【Packaging group】

ADR/RID: II

IMDG: II

IATA-DGR: II

【Environmental hazards】

ADR/RID: yes IMDG Marine pollutant: yes IATA-DGR: no

【Special precautions for user】

No data available

1 5 . Regulatory information

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

National regulatory information

Fire Service Law: Group 1 :Oxidizing solids, Nitrates Hazardous
rank I 1st oxidizing solid

Poisonous and Deleterious Substances Control Law:
Deleterious substance – Thallium nitrate

Industrial Safety and Health Law

Ordinance on Prevention of Hazards Due to Specified Chemical Substances:
Not applicable

Ordinance on Prevention of Organic Solvent Poisoning:
Not applicable

Harmful Substances Required Permission for Manufacture:
Not applicable

Circular concerning Information on Chemicals having Mutagenicity – Annex 2: Information on
Existing Chemicals having Mutagenicity: Not applicable

Circular concerning Information on Chemicals having Mutagenicity – Annex 1: Information on
Notified Substances having Mutagenicity: Not applicable

Harmful Substances Prohibited from Manufacture:
Not applicable

Substances Subject to be Indicated Names:
Article 57 (Enforcement Order Article 18) –
Thallium nitrate

Substances Prevented From Impairment of Health:
Not applicable

Ordinance on Prevention of Lead Poisoning: Not applicable

Ordinance on Prevention of Tetraalkyl Lead Poisoning:
Not applicable

Substances Subject to be Notified Names: Article 57-2 (Enforcement Order Table 9) –
Thallium nitrate

Enforcement Order of the Industrial Safety and Health Law – Attached table 1 (Dangerous
Substances): Oxidizing Substance

Act on Confirmation, etc. of Release Amounts of Specific Chemical Substances in the
Environment and Promotion of Improvements to the Management Thereof:

Chemical Substance Control Law:	Not applicable Not applicable for Specified Chemical Substance, Monitoring Chemical Substance and Priority Assessment Chemical Substance.
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1 6 . Other information

【Further information】

Information contained in this material safety data sheet is offered without charge for use by technically qualified personnel at their discretion and risk. All statement, technical information and recommendations contained herein are based on tests and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed no warranty of any kind is made with respect thereto.

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