SECTION 1  PRODUCT AND COMPANY INFORMATION

PRODUCT NAME:  Thallium (III) Nitrate, Trihydrate
PRODUCT NUMBER:  3559
CAS NUMBER:  13453-38-8
SYNONYMS:  Thallic nitrate trihydrate
MANUFACTURER:  Prochem, Inc.
826 Roosevelt Road
Rockford, IL  61109
PHONE:  815-398-1788
FAX:  815-398-1810
TOLL FREE:  800-795-8788

IN CASE OF TRANSPORTATION EMERGENCY CONTACT CHEM-TREC:  1-800-424-9300

SECTION 2  HAZARDS IDENTIFICATION

CLASSIFICATION OF SUBSTANCE OR MIXTURE

Pictogram

Signal Word  Danger

Hazard Statements

H272  May intensify fire; oxidizer.
H300+H330  Fatal if swallowed or if inhaled.
H373  May cause damage to organs through prolonged or repeated exposure.
H411  Toxic to aquatic life with long lasting effects.

Precautionary Phrases

P210  Keep away from heat/sparks/open flames/hot surfaces.
P220  Keep/store away from clothing/combustible material.
P221  Take any precaution to avoid mixing with combustibles.
P260  Do not breathe dust or mist.
P264  Wash skin thoroughly after handling.
P270  Do not eat, drink, or smoke when using this product.
P271  Use only outdoors or in a well-ventilated area.
P273  Avoid release into the environment.
P280  Wear protective gloves/protective clothing/eye protection/face protection.
P284  Wear respiratory protection.
P301+P310  IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P304+P340  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P310  Immediately call a POISON CENTER or doctor/physician.
SECTION 2  HAZARDS IDENTIFICATION (Cont.)

P403+P233  Store in a well-ventilated place.
P405  Store locked up.
P501  Dispose of contents/container to an approved waste disposal plant.

HMIS CLASSIFICATION:
Health: 4  Chronic: *  Fire: 0  Reactivity Hazard: 0

NFPA RATING:
Health: 4  Flammability: 0  Reactivity Hazard: 2  Specific Hazard: OX

EYE CONTACT: Can cause irritation, red, and watery eyes.
SKIN CONTACT: May be fatal if absorbed thru skin. May cause skin irritation.
INHALATION: Highly toxic by inhalation. May be fatal if inhaled. Causes irritation to respiratory system.
INGESTION: May be fatal if swallowed. Highly toxic.

SECTION 3  COMPOSITION / INFORMATION ON INGREDIENTS

Formula: Tl(NO₃)₃ • 3H₂O
Molecular Weight: 444.44

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS#</th>
<th>%</th>
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<tbody>
<tr>
<td>Thallium (III) Nitrate Trihydrate</td>
<td>13453-38-8</td>
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SECTION 4  FIRST AID MEASURES

EYE EXPOSURE: Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure rinsing under eyelids. Consult a physician immediately.
SKIN EXPOSURE: Wash affected area with large amounts of soap and water for at least 15 minutes. Remove contaminated clothes, shoes, if necessary. Seek immediate medical advice if redness, itching develops or persists.
INHALATION: Remove to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.
INGESTION: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

SECTION 5  FIREFIGHTING MEASURES

FLASH POINT: Product is not flammable
AUTO IGNITION TEMPERATURE: Not available
EXPLOSION LIMITS: Not available
EXTINGUISHING MEDIUM: Use fire fighting measures that suit the surround fire.
SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: Nitrogen oxides and thallium oxides.

SECTION 6  ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear all appropriate equipment when using this material. Ensure adequate ventilation. This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
ENVIRONMENTAL PRECAUTIONS: Prevent spillage from entering drains or allowing to be released into the environment.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP: Contain spillage. Absorb spill with inert materials, then place in well-marked applicable chemical waste container.
SECTION 7      HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Wear appropriate personal protective equipment. Use with adequate ventilation. Avoid formation of dusts and aerosols. Keep away from sources of ignition – no smoking.

CONDITIONS FOR SAFE STORAGE: Store in cool, dry, and well-ventilated area. Store away from flammable substances, organic materials, metal powders, water, and moisture. Hygroscopic. Protect from humidity and water.

SECTION 8      EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE CONTROLS: Contains no substances with occupational exposure limit values.

<table>
<thead>
<tr>
<th>Component</th>
<th>Exposure Limits</th>
<th>Basis</th>
<th>Entity</th>
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<tr>
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<td>0.02 mg/m³</td>
<td>TLV</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>0.1 mg/m³</td>
<td>PEL</td>
<td>OSHA</td>
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<tr>
<td></td>
<td>0.1 mg/m³</td>
<td>REL</td>
<td>NIOSH</td>
</tr>
</tbody>
</table>

TLV: Threshold Limit Value over 8 hours of work. REL: Recommended Exposure Limit
PEL: Permissible Exposure Limit

EYE PROTECTION: Wear chemical safety glasses or goggles and face shield.

SKIN PROTECTION: Wear nitrile or rubber gloves, apron, or lab coat.

VENTILATION: Provide local exhaust, preferably mechanical.

RESPIRATOR: Use an approved respirator.

ADDITIONAL PROTECTION: Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

SECTION 9      PHYSICAL AND CHEMICAL PROPERTIES

COLOR AND FORM: Colorless solid

ODOR: None

MOLECULAR WEIGHT: 444.44

BOILING POINT: Not available

MELTING POINT: 102-105°C (dec.)

SPECIFIC GRAVITY: Not available

VAPOR DENSITY: 9.2

SOLUBILITY: Soluble

SECTION 10      STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Will not occur

CONDITIONS TO AVOID: Heat, shock, humid conditions. Hygroscopic. Picks up moisture readily from air.

INCOMPATIBILITY: Strong acids, strong reducing agents, and combustible materials.

DECOMPOSITION PRODUCTS: Thallium oxides and nitrogen oxides

SECTION 11      TOXICOLOGICAL DATA

ACUTE TOXICITY: Not available

CARCINOGENIC EFFECTS: No components of this product present at levels greater than or equal to 0.1% is identified a carcinogen.

MUTAGENIC EFFECTS: Not available

TETRATOGENIC EFFECTS: Not available

CHRONIC TOXICITY: Thallium exposure may lead to alopecia. Cutaneous effects may include dry scaly skin and impairment of nail growth resulting in the appearance of crescent-shaped strips across fingernails and toenails (Mees’ line). 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. Nitrates may cause weakness, general depression, headache and mental impairment. Larger doses may cause dizziness abdominal cramps, vomiting, bloody diarrhea

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.
SECTION 12  ECOLOGICAL DATA

Toxic to aquatic organisms

SECTION 13  DISPOSAL CONSIDERATIONS

Dispose of in accordance to local, state, and federal regulations.

SECTION 14  TRANSPORTATION DATA

UN2727
Thallium nitrate
CLASS 6.1 (5.1)
PG II

Marine Pollutant: Yes

SECTION 15  REGULATORY INFORMATION

TSCA: Listed in the TSCA inventory
DSCL (EEC): Listed on the DSCL inventory
SARA 302/304: Not Listed
SARA 311/312: Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard
SARA (TITLE 313): Thallium (III) nitrate trihydrate
CALIFORNIA PROP. 65: Not Listed
PENNSYLVANIA RIGHT TO KNOW: Thallium (III) nitrate trihydrate
NEW JERSEY RIGHT TO KNOW: Thallium (III) nitrate trihydrate
WHMIS CANADA: Class C: Oxidizing materials. Class D-1A: Very toxic material causing immediate and serious toxic effects.

SECTION 16  OTHER INFORMATION

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled. However, Prochem, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information in this document or any use of the product based on the information.

DATE PREPARED: 09/14