

Safety Data Sheet



1: Identification

1.1: Product Identifier

Product Name: TICl
Product Number(s): 1TLCL-0002F
CAS Number: 7791-12-0
SDS Document Number: 000258

1.2: Recommended Uses and Restrictions

Recommended Uses
Manufacture of substances

Restrictions
Not for food or drug use.

1.3: Supplier Contact Information

APL Engineered Materials, Inc.
2401 N. Willow Rd.
Urbana, IL 61802
Phone: 217-367-1340
Fax: 217-367-9084

1.4: Emergency Phone Number

United States: 800-255-3924
International: +01-813-248-0585

2: Hazards Identification

2.1: Classifications

Acute Aquatic Toxicity - Category 2
Acute Toxicity, Inhalation - Category 2
Acute Toxicity, Oral - Category 2
Chronic Aquatic Toxicity - Category 2
Specific Target Organ Toxicity - Repeated Exposure - Category 2

2.2: GHS Label Elements

Pictograms



Signal Word: Danger

Hazard Statements

H300: Fatal if swallowed.

H330: Fatal if inhaled.
H373: May cause damage to [! (Specify organs) {internal organs;liver;kidneys}] through prolonged or repeated exposure.
H401: Toxic to aquatic life.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statements

P260: Do not breathe dust.
P264: Wash hands 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 to the environment.
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.
P320: Specific treatment is urgent. Call a physician or poison control center.
P330: Rinse mouth.
P391: Collect spillage.
P403 + P233: Store in a well-ventilated place. Keep container tightly closed.
P405: Store locked up.
P501: Dispose of contents/container to licensed disposal facility.

2.3: Hazards Not Otherwise Classified or Not Covered by GHS

None.

2.4: Amount(s) of substances with unknown toxicity

None

3: Composition/Information on Ingredients

.Ingredient	.Weight%	.Formula	.CAS Number	.Mol Wt	.EC Number
TICI	100	TICI	7791-12-0	239.84	232-241-4

3.2: Other Hazardous components

none

3.3: Trade Secret Disclaimer

none

3.4: Synonyms

Thallium (I) Chloride
thallium chloride
thallous chloride

4: First Aid Measures

4.1: First Aid

General

Consult with physician and provide this Safety Data Sheet
Remove person from area of exposure and remove any contaminated clothing

In contact with eyes

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids.

Seek medical attention if irritation develops or persists

In contact with skin

Wash thoroughly with soap and plenty of water. Remove all contaminated clothing for proper laundering. Seek medical attention if irritation develops or persists.

If swallowed

If conscious and alert, rinse mouth and drink 2-4 cupfuls of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical aid.

If inhaled

Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. Get medical aid. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

4.2: Most important symptoms and effects; acute and delayed

Fatal if swallowed

Stomach irregularities based on human evidence.

May cause damage to organs through repeated or prolonged exposure.

Fatal if inhaled

4.3: Indication of any immediate medical attention and special treatment needed

If inhaled : Immediately call a POISON CENTER or doctor/ physician.

If swallowed: Immediately call a POISON CENTER or doctor/ physician.

5: Fire Fighting Measures

5.1: Fire extinguishing media

carbon dioxide

water or alcohol-resistant foam

dry chemical

5.2: Specific hazards arising from the substance or mixture

hydrochloric acid and hydrochloric acid fumes

thallium oxides

5.3: Special protective equipment and precautions for firefighters.

Wear self contained breathing apparatus for fire fighting if necessary

6: Accidental Release Measures

6.1: Personal precautions, protective equipment, and emergency procedures.

Avoid breathing dust.

Use personal protective equipment.

For personal protection see section 8.

Avoid dust formation.

Ensure adequate ventilation.

Evacuate personnel to safe areas.

6.2: Methods and materials for containment and cleaning up.

Sweep up and shovel.

Keep in suitable, closed containers for disposal.

6.3: Environmental precautions

Do not let product enter drains.

6.4: Disposal

Dispose of in accordance with local regulations.

See section 13.

7: Handling and Storage

7.1: Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

Avoid contact with skin and eyes.

See precautionary statements in section 2.2.

7.2: Conditions for safe storage

Store in a dry and well-ventilated place.

Store under inert gas.

Keep container tightly closed.

Store away from moisture.

7.3: Incompatibilities

strong oxidizing agents

halogens

alkali metals

8: Exposure Controls/Personal Protection

8.1: Control parameters

OSHA permissible exposure limit (PEL)

0.1 mg/m³ (as Tl)

ACGIH threshold limit value (TLV)

0.02 mg/m³ (as Tl)

NIOSH recommended exposure limit (REL)

0.1 mg/m³ (as Tl)

8.2: Engineering controls

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower

Use adequate ventilation to keep airborne concentrations low

8.3: Personal protective equipment

Eyes

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166

Skin

Wear appropriate, chemical-resistant protective gloves to prevent skin exposure.

Clothing

Wear appropriate protective clothing to prevent skin exposure

Respirator

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149.
Always use a NIOSH or European Standard EN 149 approved respirator when necessary

9: Physical and Chemical Properties

9.a: Appearance

State: Solid

Form: powder or spheres

Color: White

9.b: Odor: no data available

9.c: Odor threshold: no data available

9.d: pH: no data available

9.e: Melting point / freezing point: 430 °C (806 °F)

9.f: Initial boiling point and range: no data available

9.g: Flashpoint: no data available

9.h: Evaporation rate: no data available

9.i: Flammability (solid, gas): no data available

9.j: Upper/lower flammability or explosive limits: no data available

9.k: Vapor pressure: 13 hPa (10 mmHg) at 517 °C (963 °F)

9.l: Vapor density: no data available

9.m: Relative density: 7 g/cm³ at 25 °C (77 °F)

9.n: Water Solubility: sl. Soluble

9.o: Partition coefficient: n-octanol/water: no data available

9.p: Auto-ignition temperature: no data available

9.q: Decomposition temperature: no data available

9.r: Viscosity: no data available

10: Stability and Reactivity

10.1: Reactivity

no data available

10.2: Chemical stability

Stable under recommended storage conditions.

10.3: Possibility of hazardous reactions

no data available

10.4: Conditions to avoid

exposure to water

10.5: Incompatible materials

See section 7.3.

10.6: Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5.2

11: Toxicological Information

11.1: Toxicity data

Acute toxicity - Oral

LD50 Oral - mouse - 24 mg/kg.

Acute toxicity - Dermal

no data available

Acute toxicity - Inhalation

No data available.

Skin corrosion/irritation

no data available

Eye damage/irritation

No data available.

Respiratory irritation

No data available.

Germ cell mutagenicity

Tests showed mutagenic effects.

Reproductive toxicity

Evidence of fetal development abnormalities

Specific organ toxicity - single exposure

No data available.

Specific organ toxicity - repeated exposure

Orally may cause damage to the blood through repeated or prolonged exposure.

Aspiration hazard

No data available.

Additional information

RTECS: XG4200000

ACGIH carcinogenicity

The ACGIH has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

IARC carcinogenicity

The IARC has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

NTP carcinogenicity

The NTP has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

OSHA carcinogenicity

OSHA has not identified any component of this product present at levels greater than or equal to 0.1% as a probable, possible or confirmed human carcinogen.

11.2: Routes of exposure

skin
oral
eyes

11.3: Symptoms of exposure

See section 4.2

11.4: Delayed and immediate effects of exposure

To the best of our knowledge the toxicological properties have not been thoroughly investigated.

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). Acute poisoning also can affect the gastrointestinal tract, nervous system, skin, eyes, and cardiovascular system resulting 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. Chronic poisoning may result in central and peripheral nervous system abnormalities including ataxia, tremor, incoordination, paralysis of extremities, endocrine disorders, memory loss, and psychoses.

12: Ecological Information

12.1: Ecotoxicity

Toxicity to fish

No data available

Toxicity to daphnia and other aquatic invertebrates

No data available

Toxicity to algae/bacteria

Growth inhibition EC50 - *Ditylum brightwellii* - 0.33 mg/l - 5 d

12.2: Persistence and degradability

does not biodegrade

12.3: Bioaccumulative potential

no data available

12.4: Mobility in soil

no data available

12.5: Other effects

Very toxic to aquatic life with long lasting effects.

13: Disposal Considerations

13.1: Waste treatment methods

No data available

13.2: Safe handling

See section 7.1 .

13.3: Product disposal

Contact a licensed professional waste disposal service to dispose of this material.

13.4: Packaging disposal

Dispose of as unused product.

14: Transport Information

14.1: DOT(US)

UN Number: 1707

Proper Shipping Name: Thallium compounds, n.o.s. (Thallium (I) chloride)

Packing Group: II

Shipping Class(es): 6.1

Marine Pollutant: Yes

14.2: IMDG

UN Number: 1707

Proper Shipping Name: Thallium compounds, n.o.s. (Thallium (I) chloride)

Packing Group: II

Shipping Class(es): 6.1

Marine Pollutant: Yes

14.3: IATA

UN Number: 1707

Proper Shipping Name: Thallium compounds, n.o.s. (Thallium (I) chloride)

Packing Group: II

Shipping Class(es): 6.1

14.4: Special Shipping Precautions

None

15: Regulatory Information

15.1: TSCA inventory

This material is listed on the TSCA inventory.

15.2: SARA 302 components

This material is subject to the reporting requirements of SARA Title III, Section 302.

15.3: SARA 313 components

This material is subject to the reporting requirements of SARA Title III, Section 313.

15.4: SARA 313/312 hazards

Chronic health hazard.

Acute health hazard.

15.5: Other information

California Prop. 65 Components - This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right To Know Components - This product does not contain materials listed on the Massachusetts Right to Know list

Pennsylvania Right To Know Components -This product contains materials listed on the Pennsylvania Right to Know list

New Jersey Right To Know Components -This product contains materials listed on the New Jersey Right to Know list

16: Additional Information

16.1: NFPA

Health: 4
Fire: 0
Reactivity: 0
Special:

16.2: HMIS

Health: 3
Chronic: *
Flammability: 0
Physical Hazard: 0

16.3: Disclaimers

For industrial use only. Not for drug, household or other uses

The information herein is believed to be accurate and reliable as of the date compiled. However, APL Engineered Materials, Inc. makes no representation, warranty, or guarantee of any kind with respect to the information on this data sheet or any use of the product based upon this information.

16.4: References

Information contained on this SDS sheet was obtained from some or all of the following sources: American Conference of Governmental Industrial Hygienists (ACGIH), TLVs and BEIs; National Institute for Occupational Safety and Health (NIOSH), Pocket Guide to Chemical Hazards; European Chemicals Agency, <http://echa.europa.eu/>; The National Institute of Health, U.S National Library of Medicine, TOXNET, Toxicology Data Network; and the Registry of Toxic Effects of Chemical Substances (RTECS) database.

16.5: Version

Preparation Date: 5/22/2015
Revision Date: 5/22/2015
Version Number: GHS 1.0