

# Material Safety Data Sheet

| HAZARD WARNINGS                                                                                                                                                     | RISK PHRASES                                                                                                                                                          | PROTECTIVE CLOTHING                                                                                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <b>Flammable material; avoid heat and sources of ignition.</b><br><b>Irritating to skin, eyes, and the respiratory system.</b><br><b>Moisture sensitive material.</b> |     |

## Section I. Chemical Product and Company Identification

|                  |                                                                 |                                 |                                                                                           |
|------------------|-----------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------|
| Chemical Name    | <b>Orthoacetic Acid Triethyl Ester</b>                          |                                 |                                                                                           |
| Catalog Number   | O0105                                                           | Supplier                        | TCI America<br>9211 N. Harborsgate St.<br>Portland OR<br>1-800-423-8616                   |
| Synonym          | Triethyl orthoacetate                                           |                                 |                                                                                           |
| Chemical Formula | CH <sub>3</sub> C(OC <sub>2</sub> H <sub>5</sub> ) <sub>3</sub> |                                 |                                                                                           |
| CAS Number       | 78-39-7                                                         | In case of<br>Emergency<br>Call | <b>Chemtrec®</b><br><b>(800) 424-9300 (U.S.)</b><br><b>(703) 527-3887 (International)</b> |

## Section II. Composition and Information on Ingredients

| Chemical Name                   | CAS Number | Percent (%)       | TLV/PEL        | Toxicology Data                        |
|---------------------------------|------------|-------------------|----------------|----------------------------------------|
| Orthoacetic Acid Triethyl Ester | 78-39-7    | Min. 95.0<br>(GC) | Not available. | Rat LD <sub>50</sub> (oral) >6400mg/kg |

## Section III. Hazards Identification

|                        |                                                                                                                                                                                                                                                                                                                                                                                                          |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acute Health Effects   | Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound. |
| Chronic Health Effects | <b>CARCINOGENIC EFFECTS</b> : Not available.<br><b>MUTAGENIC EFFECTS</b> : Not available.<br><b>TERATOGENIC EFFECTS</b> : Not available.<br><b>DEVELOPMENTAL TOXICITY</b> Not available.<br>There is no known effect from chronic exposure to this product. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.                                       |

## Section IV. First Aid Measures

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye Contact  | Check for and remove any contact lenses. DO NOT use an eye ointment. Flush eyes with running water for a minimum of 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention. Treat symptomatically and supportively.                                                                                                                                                                                                                                                                                                                         |
| Skin Contact | After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cover the irritated skin with an emollient. Seek medical attention. Treat symptomatically and supportively. Wash any contaminated clothing before reusing.                                                                                                                                                                                |
| Inhalation   | Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform artificial respiration. Seek medical attention. Treat symptomatically and supportively.                                                                                                                                                                                                                                                                     |
| Ingestion    | INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt, or waistband. If the victim is not breathing, administer artificial respiration. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Seek immediate medical attention and, if possible, show the chemical label. Treat symptomatically and supportively. |

## Section V. Fire and Explosion Data

|                                      |                                                                                                                                                                                                                                                     |                  |                |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------------|
| Flammability                         | Flammable.                                                                                                                                                                                                                                          | Auto-Ignition    | Not available. |
| Flash Points                         | 37°C (98.6°F)                                                                                                                                                                                                                                       | Flammable Limits | Not available. |
| Combustion Products                  | These products are toxic carbon oxides (CO, CO <sub>2</sub> ).                                                                                                                                                                                      |                  |                |
| Fire Hazards                         | No specific information is available regarding the flammability of this compound in the presence of various materials.                                                                                                                              |                  |                |
| Explosion Hazards                    | Risks of explosion of the product in presence of mechanical impact: Not available.<br>Risks of explosion of the product in presence of static discharge: Not available.<br>No additional information is available regarding the risks of explosion. |                  |                |
| Fire Fighting Media and Instructions |                                                                                                                                                                                                                                                     |                  |                |

Continued on Next Page

Emergency phone number (800) 424-9300

Flammable liquid.  
 SMALL FIRE: Use DRY chemicals, CO<sub>2</sub>, alcohol foam or water spray.  
 LARGE FIRE: Use alcohol foam, water spray or fog.

## Section VI. Accidental Release Measures

### Spill Cleanup Instructions

Flammable liquid. Irritating material.  
 Keep away from heat and sources of ignition. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Eliminate all sources of ignition. Consult federal, state, and/or local authorities for assistance on disposal.

## Section VII. Handling and Storage

### Handling and Storage Information

FLAMMABLE. IRRITANT. MOISTURE SENSITIVE. Do not breathe gas, fumes, vapor or spray. If you feel unwell, seek medical attention and show the label when possible. Treat symptomatically and supportively. Avoid contact with skin and eyes.  
 Always store away from incompatible compounds such as oxidizing agents, acids.

## Section VIII. Exposure Controls/Personal Protection

### Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.

### Personal Protection

Splash goggles. Lab coat. Dust respirator. Boots. Gloves. A MSHA/NIOSH approved respirator must be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



### Exposure Limits

Not available.

## Section IX. Physical and Chemical Properties

|                       |                 |                       |                |
|-----------------------|-----------------|-----------------------|----------------|
| Physical state @ 20°C | Liquid.         | Solubility            | Not available. |
| Specific Gravity      | 0.885           |                       |                |
| Molecular Weight      | 162.23          | Partition Coefficient | Not available. |
| Boiling Point         | 142°C (287.6°F) | Vapor Pressure        | Not available. |
| Melting Point         | Not available.  | Vapor Density         | Not available. |
| Refractive Index      | Not available.  | Volatility            | Not available. |
| Critical Temperature  | Not available.  | Odor                  | Not available. |
| Viscosity             | Not available.  | Taste                 | Not available. |

## Section X. Stability and Reactivity Data

|                           |                                                                                               |
|---------------------------|-----------------------------------------------------------------------------------------------|
| Stability                 | This material is stable if stored under proper conditions. (See Section VII for instructions) |
| Conditions of Instability | Protect from moisture. Avoid excessive heat and light.                                        |
| Incompatibilities         | Reactive with oxidizing agents, acids.                                                        |

## Section XI. Toxicological Information

|                       |                                                                                                                                                                                                                                                                                                                                                                                                          |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RTECS Number          | Not available.                                                                                                                                                                                                                                                                                                                                                                                           |
| Routes of Exposure    | Eye contact. Ingestion. Inhalation. Skin contact.                                                                                                                                                                                                                                                                                                                                                        |
| Toxicity Data         | Rat LD <sub>50</sub> (oral) >6400mg/kg                                                                                                                                                                                                                                                                                                                                                                   |
| Chronic Toxic Effects | <b>CARCINOGENIC EFFECTS</b> : Not available.<br><b>MUTAGENIC EFFECTS</b> : Not available.<br><b>TERATOGENIC EFFECTS</b> : Not available.<br><b>DEVELOPMENTAL TOXICITY</b> Not available.<br>There is no known effect from chronic exposure to this product. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.                                       |
| Acute Toxic Effects   | Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound. |

**Section XII. Ecological Information**

Ecotoxicity Not available.

Environmental Fate Not available.

**Section XIII. Disposal Considerations**

Waste Disposal Recycle to process, if possible. Consult your local or regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state, and local regulations when disposing of this substance.

**Section XIV. Transport Information**

DOT Classification DOT CLASS 3: Flammable liquid.

PIN Number UN3272

Proper Shipping Name Esters n.o.s.

Packing Group (PG) III

DOT Pictograms

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA) This product is **ON** the EPA Toxic Substances Control Act (TSCA) inventory.

WHMIS Classification (Canada) WHMIS CLASS B-2: Flammable liquid with a flash point lower than 35°C (100°F).

EINECS Number (EEC) 201-112-4

EEC Risk Statements  
10- Flammable.  
36/37/38- Irritating to eyes, respiratory system and skin.

Japanese Regulatory Data Not available.

**Section XVI. Other Information****Version 1.0****Validated on 8/6/1998.****Printed 2/24/2005.****Notice to Reader**

TCI laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, household, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.