

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)  
+1.703.527.3887 (INT)

# MATERIAL SAFETY DATA SHEET

## Acetyl Tributyl Citrate (ATBC)

### 1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

**Product Identifier:** High Purity Chemicals  
**Synonyms:** Tributyl 2-acetylcitrate, tributyl O-acetylcitrate  
**Other means of identification:** CAS No. 77-90-7  
EINECS No. 201-067-0

**Recommended use of the chemical and restrictions on use:**

Commonly used as an industrial, biodegradable, plasticizer

**Supplier Details:**

**Pharmco Products, Inc.**

58 Vale Road, Brookfield,  
CT 06804, USA.

Tel: 203.740.3471

Fax: 203.740.3481

CCN17213

**Pharmco Products, Inc.**

1101 Isaac Shelby Drive, Shelbyville,  
KY 40065, USA.

Tel: 502.232.7600

Fax: 502.633.6100

CCN17213

**Emergency Contact:**

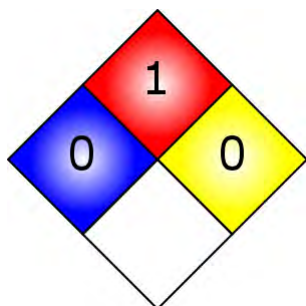
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### 2. HAZARDS IDENTIFICATION

**OSHA Hazards:**

No OSHA hazards

**NFPA**



**GHS Classification(s)**

Not a dangerous substance/mixture according to GHS standards.

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**Other hazards which do not result in classification:**

**Potential Health Effects:**

| Organ      | Description  |
|------------|--|
| Eyes       | Can cause irritation to the eyes                                 |
| Ingestion  | Can be harmful if ingested                                       |
| Inhalation | Can be harmful, causing respiratory tract irritation, if inhaled |
| Skin       | Can be harmful, causing irritation, if absorbed through skin.    |

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

|                               |  |
|-------------------------------|--|
| <b>Chemical identity:</b>     | Acetyl Tributyl Citrate                            |
| <b>Common name / Synonym:</b> | Tributyl 2-acetylcitrate, tributyl O-acetylcitrate |
| <b>CAS number:</b>            | 77-90-7  |
| <b>EINECS number:</b>         | 201-067-0  |
| <b>RTECS #:</b>               | TZ8330000  |

| % Weight | Material                | CAS     |
|----------|-------------------------|---------|
| 100      | Acetyl Tributyl Citrate | 77-90-7 |

### 4. FIRST AID MEASURES

#### General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### Skin

Wash skin with soap and copious amounts of water.

#### Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

#### Eyes

Flush eyes with water as a precaution.

#### Ingestion

Rinse mouth with plenty of water. Never give anything by mouth to an unconscious person. Contact a physician.

### 5. FIRE FIGHTING MEASURES

**Suitable (and unsuitable) extinguishing media:**

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

**Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):**

No data available.

**Special protective equipment and precautions for firefighters:**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

**Flammable Properties**

**Flash point**

113°C (235°F) - closed cup

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## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:**

Do not inhale vapors, mist or gas.

**Environmental precautions:**

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

**Methods and materials for containment and cleaning up:**

Absorb with an inert dry material and place in an appropriate waste disposal container. Keep disposal containers closed when finished.

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## 7. HANDLING AND STORAGE

**Precautions for safe handling:**

Do not get on skin or in eyes. Do not inhale vapor or mist. Take normal fire prevention measures.

**Conditions for safe storage, including any incompatibilities:**

Keep container closed in a dry, well ventilated location. Opened containers must be resealed and kept upright to prevent leakage.

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters, e.g., occupational exposure limit values or biological limit values:**

**Occupational Exposure Limits**

| Component               | Source | Type | Value             | Note |
|-------------------------|--------|------|-------------------|------|
| Acetyl Tributyl Citrate | /      |      | No exposure limit |      |

**Appropriate engineering controls:**

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General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

**Individual protection measures, such as personal protective equipment:**

**Respiratory protection:**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges 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).

**Hand 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.

**Eye protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

**Skin and body protection:**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures:**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

|   |   |
|---|---|
| <b>Appearance (physical state, color, etc.)</b>       | Liquid  |
| <b>Odor</b>   | Specific data not available   |
| <b>Odor threshold</b>                                 | Specific data not available   |
| <b>pH</b>   | Specific data not available   |
| <b>Freezing point</b>                                 | Specific data not available   |
| <b>Initial boiling point and boiling range</b>        | Specific data not available   |
| <b>Flash point</b>                                    | 113°C (235°F) - closed cup  |
| <b>Evaporation rate</b>                               | Specific data not available   |
| <b>Flammability (solid, gas)</b>                      | Not flammable or combustible  |
| <b>Upper / Lower flammability or explosive limits</b> | Specific data not available   |
| <b>Vapor pressure</b>                                 | 17.9 hPa (13.4 mmHg) at 20 °C (68 °F)   |
| <b>Vapor Density</b>                                  | Specific data not available   |
| <b>Relative Density</b>                               | 1.05 g/cm <sup>3</sup> at 25 °C (77 °F)                                       |
| <b>Solubility(ies)</b>                                | Miscible in alcohol and methylene chloride. Not considered miscible in water. |

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|  |  |
|--|--|
| Partition coefficient n-octanol/water(ies) | Specific data not available                    |
| Auto-ignition temperature                  | Specific data not available                    |
| Decomposition temperature                  | Specific data not available                    |
| Formula (ACETYL TRIBUTYL CITRATE)          | C <sub>20</sub> H <sub>34</sub> O <sub>8</sub> |
| Molecular Weight (ACETYL TRIBUTYL CITRATE) | 402.48 g/mol                                   |

## 10. STABILITY AND REACTIVITY

|  |  |
|--|--|
| Chemical Stability   | Stable under recommended storage conditions.   |
| Possibility of hazardous reactions                               | No data available  |
| Conditions to avoid (e.g., static discharge, shock or vibration) | Avoid moisture, heat flames, and sparks. Avoid extreme temperatures and direct sunlight.               |
| Incompatible materials   | Strong oxidizing agents  |
| Hazardous decomposition products                                 | Carbon oxides are expected to be, under fire conditions, the primary hazardous decomposition products. |

## 11. TOXICOLOGICAL INFORMATION

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### Product Summary:

No data available for the teratogenicity, mutagenicity, or reproductive toxicity of this product. No data available to designate the product as causing specific target organ toxicity through single or repeated exposure. No data available to designate product as an aspiration hazard.

### Acute Toxicity:

|                        |       |             |  |
|------------------------|-------|-------------|--|
| LD50 (Intraperitoneal) | Mouse | 4,000 mg/kg |  |
|------------------------|-------|-------------|--|

### Irritation:

#### Eyes

No data available.

#### Respiratory or Skin Sensitization

No data available

#### Skin

No data available

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen

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or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### Other Hazards

| Organ      | Description   |
|------------|---|
| Eyes       | Can be irritating to eyes   |
| Ingestion  | Can be harmful if ingested  |
| Inhalation | Can be harmful, causing respiratory irritation, if inhaled.             |
| Skin       | Can be harmful, causing localized irritation, if absorbed through skin. |

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## 12. ECOLOGICAL INFORMATION

- Acetyl Tributyl Citrate 77-90-7

#### Ecotoxicity (aquatic and terrestrial, where available):

##### Ecotoxicity

No data available

#### Persistence and degradability:

No data available

#### Bioaccumulative potential:

No data available

#### Other adverse effects:

No data available

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## 13. DISPOSAL CONSIDERATIONS

**Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:**

Offer surplus and non-recyclable solutions to a licensed disposal company.

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## 14. TRANSPORT INFORMATION

**Description of waste residues and information on their safe handling and methods of disposal:**

|                  |                       |
|------------------|-----------------------|
| <b>UN number</b> | Not a dangerous good. |
|------------------|-----------------------|

### IMDG

UN-Number: Not a dangerous good.

Marine pollutant: No

### IATA

UN-Number: Not a dangerous good.

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## 15. REGULATORY INFORMATION

**Safety, health and environmental regulations specific for the product in question:**

### OSHA Hazards

No OSHA hazards

All ingredients are on the following inventories or are exempted from listing

| <b>Country</b>           | <b>Notification</b> |
|--------------------------|---------------------|
| Australia                | AICS                |
| Canada                   | DSL                 |
| China                    | IECS                |
| European Union           | EINECS              |
| Japan                    | ENCS/ISHL           |
| Korea                    | ECL                 |
| New Zealand              | NZIoC               |
| Philippines              | PICCS               |
| United States of America | TSCA                |

### SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### CERCLA

No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

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**Pennsylvania Right To Know Components**

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**New Jersey Right To Know Components**

Acetyl Tributyl Citrate CAS-No. 77-90-7

**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.

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## **16. OTHER INFORMATION: INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS**

**Disclaimer**

PHARMCO-AAPER believes that the information on this MSDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, PHARMCO-AAPER does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable. Information is correct to the best of our knowledge at the date of the MSDS publication.