SAFETY DATA SHEET

1. Identification

Product Name  tert-Butylperoxy isopropyl carbonate, 75% solution in aromatic free mineral spirit

Cat No. : AC349840000; AC349842500

Synonyms Trigonox® BPIC

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company
Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Acros Organics
One Reagent Lane
Fair Lawn, NJ 07410

Emergency Telephone Number
For information US call: 001-800-ACROS-01 / Europe call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No.US:001-800-424-9300 / Europe:001-703-527-3887

2. Hazard(s) identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Classification</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammable liquids</td>
<td>Category 3</td>
</tr>
<tr>
<td>Organic peroxides</td>
<td>Type C</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious Eye Damage/Eye Irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Skin Sensitization</td>
<td>Category 1</td>
</tr>
<tr>
<td>Aspiration Toxicity</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Label Elements

Signal Word
Danger

Hazard Statements
Flammable liquid and vapor
Heating may cause a fire
May be fatal if swallowed and enters airways
tert-Butylperoxy isopropyl carbonate, 75% solution in aromatic free mineral spirit

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Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction

Precautionary Statements

Prevention
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Contaminated work clothing should not be allowed out of the workplace
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep/Store away from clothing/ other combustible materials
Keep only in original container

Skin
If skin irritation or rash occurs: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention

Ingestion
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
Do NOT induce vomiting

Fire
In case of fire: Use CO2, dry chemical, or foam for extinction

Storage
Store locked up
Store in a well-ventilated place. Keep cool
Protect from sunlight
Store away from other materials
Store at temperatures not exceeding 4 °C/ 39 °F

Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Very toxic to aquatic life with long lasting effects

Unknown Acute Toxicity
No information available

3. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butyl peroxypalpropyl carbonate</td>
<td>2372-21-6</td>
<td>75</td>
</tr>
<tr>
<td>Naphtha (petroleum), hydrotreated heavy</td>
<td>64742-48-9</td>
<td>25</td>
</tr>
</tbody>
</table>
4. First-aid measures

**General Advice**
If symptoms persist, call a physician.

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Inhalation**
Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. Risk of serious damage to the lungs (by aspiration).

**Ingestion**
Clean mouth with water and drink afterwards plenty of water. Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward.

**Most important symptoms and effects**
Difficulty in breathing. May cause allergic skin reaction. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Notes to Physician**
Treat symptomatically

5. Fire-fighting measures

**Suitable Extinguishing Media**
Water spray. Carbon dioxide (CO₂). Dry chemical. Chemical foam. Water mist may be used to cool closed containers.

**Unsuitable Extinguishing Media**
No information available

**Flash Point**
47 °C / 116.6 °F

**Method -**
CC (closed cup)

**Autoignition Temperature**
380 °C / 716 °F

**Explosion Limits**
Lower No data available
Upper No data available

**Oxidizing Properties**
Not applicable

**Sensitivity to Mechanical Impact**
No information available

**Sensitivity to Static Discharge**
No information available

**Specific Hazards Arising from the Chemical**
Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous Combustion Products**
Carbon monoxide (CO). Carbon dioxide (CO₂). Acetone.

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>3</td>
<td>3</td>
<td>OX</td>
</tr>
</tbody>
</table>
6. **Accidental release measures**

**Personal Precautions**
Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**
Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**Methods for Containment and Clean Up**
Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

7. **Handling and storage**

**Handling**
Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

**Storage**

8. **Exposure controls / personal protection**

**Exposure Guidelines**
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures**
Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

**Personal Protective Equipment**

- **Eye/face Protection**
  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 and body protection**
  Wear appropriate protective gloves and clothing to prevent skin exposure.

- **Respiratory Protection**
  Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

- **Hygiene Measures**
  Handle in accordance with good industrial hygiene and safety practice.

9. **Physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquid</td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>Approximately neutral</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>-20 °C / -4 °F</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point Method -</td>
<td>47 °C / 116.6 °F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No information available</td>
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</tbody>
</table>
tert-Butylperoxy isopropyl carbonate, 75% solution in aromatic free mineral spirit

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**Flammability (solid,gas)** Not applicable

**Flammability or explosive limits**
- **Upper** No data available
- **Lower** No data available

**Vapor Pressure** No information available

**Vapor Density** No information available

**Specific Gravity** 0.905

**Solubility** No information available

**Partition coefficient; n-octanol/water** No data available

**Autoignition Temperature** 380 °C / 716 °F

**Decomposition Temperature** No information available

**Viscosity** 2.3 mPa.s at 20 °C

**Self-Accelerating Decomposition Temperature (SADT)** 70 °C

### 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Risk of explosion by shock, friction, fire or other sources of ignition.

**Conditions to Avoid** Keep away from open flames, hot surfaces and sources of ignition. Do not subject to grinding/shock/friction. Exposure to light. Incompatible products.

**Incompatible Materials** Acids, Bases, Metals, Reducing Agent

**Hazardous Decomposition Products** Carbon monoxide (CO), Carbon dioxide (CO₂), Acetone

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

### 11. Toxicological information

**Acute Toxicity**

**Product Information** No acute toxicity information is available for this product

**Oral LD50** Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

**Dermal LD50** Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

**Vapor LC50** Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

**Component Information**

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphtha (petroleum), hydrotreated heavy</td>
<td>LD50 &gt; 6000 mg/kg ( Rat )</td>
<td>LD50 &gt; 3160 mg/kg ( Rabbit )</td>
<td>LC50 &gt; 8500 mg/m³ ( Rat ) 4 h</td>
</tr>
</tbody>
</table>

**Toxicologically Synergistic Products** No information available

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Irritation** Irritating to eyes and skin

**Sensitization** May cause sensitization by skin contact

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butylperoxy isopropyl carbonate</td>
<td>2372-21-6</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Naphtha (petroleum), hydrotreated heavy</td>
<td>64742-48-9</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

**Mutagenic Effects** Mutagenic effects have occurred in experimental animals.
tert-Butylperoxy isopropyl carbonate, 75% solution in aromatic free mineral spirit

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

STOT - single exposure
None known

STOT - repeated exposure
None known

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting:
Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butyl peroxyisopropyl carbonate</td>
<td>Not listed</td>
<td>0.314 mg/l EC50 (48h)</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
<tr>
<td>Naphtha (petroleum), hydrotreated heavy</td>
<td>Not listed</td>
<td>LC50: = 2200 mg/L, 96h (Pimephales promelas)</td>
<td>Not listed</td>
<td>LC50: = 2.6 mg/L, 96h (Chaetogammarus marinus)</td>
</tr>
</tbody>
</table>

Persistence and Degradability
Immiscible with water

Bioaccumulation/ Accumulation
No information available.

Mobility
Is not likely mobile in the environment due its low water solubility.

13. Disposal considerations

Waste Disposal Methods
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT
- UN-No: UN3103
- Proper Shipping Name: ORGANIC PEROXIDE TYPE C, LIQUID
- Technical Name: tert-Butyl peroxyisopropyl carbonate, Naphtha (petroleum), hydrotreated heavy
- Hazard Class: 5.2
- Packing Group: II

TDG
- UN-No: UN3103
- Proper Shipping Name: ORGANIC PEROXIDE TYPE C, LIQUID
- Hazard Class: 5.2
- Packing Group: II

IATA
- UN-No: UN3103
- Proper Shipping Name: Organic peroxide type C, liquid (Mixture)
- Hazard Class: 5.2
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Packing Group II
IMDG/IMO
UN-No UN3103
Proper Shipping Name Organic peroxide type C, liquid (Mixture)
Hazard Class 5.2
Packing Group II

15. Regulatory information

United States of America Inventory

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active/Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>tert-Butyl peroxyisopropyl carbonate</td>
<td>2372-21-6</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
<tr>
<td>Naphtha (petroleum), hydrotreated heavy</td>
<td>64742-48-9</td>
<td>X</td>
<td>ACTIVE</td>
<td>-</td>
</tr>
</tbody>
</table>

Legend:
TSCA - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
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<tbody>
<tr>
<td>tert-Butyl peroxyisopropyl carbonate</td>
<td>2372-21-6</td>
<td>X</td>
<td>-</td>
<td>219-143-7</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Naphtha (petroleum), hydrotreated heavy</td>
<td>64742-48-9</td>
<td>X</td>
<td>-</td>
<td>265-150-3</td>
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<td>KE-25622</td>
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</table>

U.S. Federal Regulations
SARA 313 Not applicable
SARA 311/312 Hazard Categories See section 2 for more information
CWA (Clean Water Act) Not applicable
Clean Air Act Not applicable
OSHA - Occupational Safety and Health Administration Not applicable
CERCLA Not applicable
California Proposition 65 This product does not contain any Proposition 65 chemicals.
U.S. State Right-to-Know Regulations Not applicable
U.S. Department of Transportation Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N
U.S. Department of Homeland This product does not contain any DHS chemicals.
16. Other information

<table>
<thead>
<tr>
<th>Prepared By</th>
<th>Regulatory Affairs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Thermo Fisher Scientific</td>
</tr>
<tr>
<td></td>
<td>Email: <a href="mailto:EMSDS.RA@thermofisher.com">EMSDS.RA@thermofisher.com</a></td>
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</table>

<table>
<thead>
<tr>
<th>Creation Date</th>
<th>21-Sep-2009</th>
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</thead>
<tbody>
<tr>
<td>Revision Date</td>
<td>19-Jan-2018</td>
</tr>
<tr>
<td>Print Date</td>
<td>19-Jan-2018</td>
</tr>
<tr>
<td>Revision Summary</td>
<td>This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).</td>
</tr>
</tbody>
</table>

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS