

**1 Identification**

**Product identifier**

**Product name:** tert-Butyl peroxybenzoate

**Stock number:** A17373, L00389

**CAS Number:**  
614-45-9

**EC number:**  
210-382-2

**Relevant identified uses of the substance or mixture and uses advised against.**

**Identified use:** SU24 Scientific research and development

**Details of the supplier of the safety data sheet**

**Manufacturer/Supplier:**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.

30 Bond Street  
Ward Hill, MA 01835-8099

Tel: 800-343-0660

Fax: 800-322-4757

Email: tech@alfa.com

www.alfa.com

**Information Department:** Health, Safety and Environmental Department

**Emergency telephone number:**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

**2 Hazard(s) identification**

**Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)**

 GHS02 Flame

Org. Perox. CD H242 Heating may cause a fire.

 GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Irrit. 2 H315 Causes skin irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

H227 Combustible liquid.

**Hazards not otherwise classified** No information known.

**Label elements**

**GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

**Hazard pictograms**

 

GHS02 GHS07

**Signal word** Danger

**Hazard statements**

H227 Combustible liquid.

H242 Heating may cause a fire.

H302+H332 Harmful if swallowed or if inhaled.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

**Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P220 Keep/Store away from clothing/combustible materials.

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P362 Take off contaminated clothing and wash before reuse.

P363 Wash contaminated clothing before reuse.

P410 Protect from sunlight.

P420 Store away from other materials.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**WHMIS classification**

B3 - Combustible liquid

C - Oxidizing materials

D2B - Toxic material causing other toxic effects

  

**Classification system**

**HMIS ratings (scale 0-4)**  
**(Hazardous Materials Identification System)**

**HEALTH** 2 Health (acute effects) = 2

**FIRE** 1 Flammability = 1

**REACTIVITY** 3 Physical Hazard = 3

**Other hazards**

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

Product name: **tert-Butyl peroxybenzoate**

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### 3 Composition/information on ingredients

**Chemical characterization: Substances**

**CAS# Description:**

614-45-9 tert-Butyl peroxybenzoate

**Concentration:** ≤100%

**Identification number(s):**

**EC number:** 210-382-2

### 4 First-aid measures

**Description of first aid measures**

**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

**After skin contact**

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

**After eye contact** Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing** Seek medical treatment.

**Information for doctor**

**Most important symptoms and effects, both acute and delayed**

Causes skin irritation.

Harmful if swallowed.

Harmful if inhaled.

May cause an allergic skin reaction.

**Indication of any immediate medical attention and special treatment needed** No further relevant information available.

### 5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents** Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**For safety reasons unsuitable extinguishing agents** Halocarbon extinguisher

**Special hazards arising from the substance or mixture**

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

**Advice for firefighters**

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

### 6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Environmental precautions:** Do not allow product to reach sewage system or any water course.

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

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

**Prevention of secondary hazards:**

Acts as an oxidizing agent on organic materials such as wood, paper and fats

Keep away from ignition sources.

Keep away from combustible material.

**Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

### 7 Handling and storage

**Handling**

**Precautions for safe handling**

Keep container tightly sealed.

Ensure good ventilation at the workplace.

**Information about protection against explosions and fires:**

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

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

**Storage**

**Requirements to be met by storerooms and receptacles:** Refrigerate

**Information about storage in one common storage facility:**

Store away from flammable substances.

Store away from reducing agents.

Protect from heat.

Do not store with organic materials.

Store away from metal powders.

Store away from oxidizing agents.

**Further information about storage conditions:**

Keep container tightly sealed.

Refrigerate

**Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:** No data

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USA

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**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Recommended filter device for short term use:**

Use a respirator with multi-purpose combination (US) or type ABEK (EN 14387) as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards such as NIOSH (USA) or CEN (EU).

**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Material of gloves** Nitrile rubber, NBR

**Penetration time of glove material (in minutes)** 480

**Glove thickness** 0.4 mm

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

**9 Physical and chemical properties**

**Information on basic physical and chemical properties**

**General Information**

**Appearance:**

**Form:** Liquid

**Odor:** Sweet

**Odor threshold:** Not determined.

**pH-value:** Not determined.

**Change in condition**

**Melting point/Melting range:** 6-8 °C (43-46 °F)

**Boiling point/Boiling range:** 75-76 °C (167-169 °F) (0.2mm)

**Sublimation temperature / start:** Not determined

**Flash point:** 93 °C (199 °F)

**Flammability (solid, gaseous)** Not determined.

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Auto igniting:** Not determined.

**Danger of explosion:** Not determined.

**Explosion limits:**

**Lower:** Not determined

**Upper:** Not determined

**Vapor pressure at 50 °C (122 °F):** 0.43 hPa

**Density at 20 °C (68 °F):** 1.042 g/cm<sup>3</sup> (8.695 lbs/gal)

**Relative density** Not determined.

**Vapor density** Not determined.

**Evaporation rate** Not determined.

**Solubility in / Miscibility with**

**Water:** Not miscible or difficult to mix

**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**

**dynamic at 20 °C (68 °F):** 0.6 mPas

**kinematic:** Not determined.

**Other information** No further relevant information available.

**10 Stability and reactivity**

**Reactivity**

May cause fire.

May intensify fire; oxidizer.

**Chemical stability** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided:** Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions**

Reacts with strong oxidizing agents

Reacts with reducing agents

Reacts with flammable substances

**Conditions to avoid** No further relevant information available.

**Incompatible materials:**

Flammable substances

Reducing agents

Oxidizing agents

Heat

Organic materials

Metal powders

**Hazardous decomposition products:** Carbon monoxide and carbon dioxide

**11 Toxicological information**

**Information on toxicological effects**

**Acute toxicity:**

Harmful if inhaled.

Harmful if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

**LD/LC50 values that are relevant for classification:**

Oral | LD50 | 1012 mg/kg (rat)

**Skin irritation or corrosion:** Causes skin irritation.

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**Eye irritation or corrosion:** May cause irritation  
**Sensitization:** May cause an allergic skin reaction.  
**Germ cell mutagenicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.  
**Carcinogenicity:**  
 The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.  
 No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
**Reproductive toxicity:** No effects known.  
**Specific target organ system toxicity - repeated exposure:** No effects known.  
**Specific target organ system toxicity - single exposure:** No effects known.  
**Aspiration hazard:** No effects known.  
**Subacute to chronic toxicity:** The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.  
**Additional toxicological information:** To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
**Carcinogenic categories**  
**OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

**12 Ecological information**

**Toxicity**  
**Aquatic toxicity:** No further relevant information available.  
**Persistence and degradability** No further relevant information available.  
**Bioaccumulative potential** No further relevant information available.  
**Mobility in soil** No further relevant information available.  
**Ecotoxicological effects:**  
**Remark:** Very toxic for aquatic organisms  
**Additional ecological information:**  
**General notes:**  
 Do not allow product to reach ground water, water course or sewage system.  
 Danger to drinking water if even small quantities leak into the ground.  
 Also poisonous for fish and plankton in water bodies.  
 Avoid transfer into the environment.  
 Very toxic for aquatic organisms  
**Results of PBT and vPvB assessment**  
**PBT:** Not applicable.  
**vPvB:** Not applicable.  
**Other adverse effects** No further relevant information available.

**13 Disposal considerations**

**Waste treatment methods**  
**Recommendation** Consult state, local or national regulations to ensure proper disposal.  
**Uncleaned packagings:**  
**Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

<b>UN-Number</b>	UN3103
<b>DOT, IMDG, IATA</b>	
<b>UN proper shipping name</b>	Organic peroxide type C, liquid (tert-Butyl peroxybenzoate)
<b>DOT</b>	ORGANIC PEROXIDE TYPE C, LIQUID (tert-Butyl peroxybenzoate)
<b>IMDG, IATA</b>	
<b>Transport hazard class(es)</b>	
<b>DOT</b>	
	
<b>Class</b>	5.2 Organic peroxides.
<b>Label</b>	5.2
<b>Class</b>	5.2 (P1) Organic peroxides
<b>Label</b>	5.2
<b>IMDG, IATA</b>	
	
<b>Class</b>	5.2 Organic peroxides.
<b>Label</b>	5.2
<b>Packing group</b>	II
<b>DOT</b>	
<b>Environmental hazards:</b>	Environmentally hazardous substance, liquid
<b>Special precautions for user</b>	Warning: Organic peroxides
<b>EMS Number:</b>	F-J,S-R
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>DOT</b>	
<b>Marine Pollutant (DOT):</b>	No
<b>UN "Model Regulation":</b>	UN3103, Organic peroxide type C, liquid (tert-Butyl peroxybenzoate), 5.2

**15 Regulatory information**

**Safety, health and environmental regulations/legislation specific for the substance or mixture**  
**GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

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USA

Product name: **tert-Butyl peroxybenzoate**

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**Hazard pictograms**



GHS02 GHS07

**Signal word** Danger

**Hazard statements**

H227 Combustible liquid.  
H242 Heating may cause a fire.  
H302+H332 Harmful if swallowed or if inhaled.  
H315 Causes skin irritation.  
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**Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
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P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P362 Take off contaminated clothing and wash before reuse.  
P363 Wash contaminated clothing before reuse.  
P410 Protect from sunlight.  
P420 Store away from other materials.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations**

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.  
All components of this product are listed on the Canadian Domestic Substances List (DSL).

**SARA Section 313 (specific toxic chemical listings)** Substance is not listed.

**California Proposition 65**

**Prop 65 - Chemicals known to cause cancer** Substance is not listed.

**Prop 65 - Developmental toxicity** Substance is not listed.

**Prop 65 - Developmental toxicity, female** Substance is not listed.

**Prop 65 - Developmental toxicity, male** Substance is not listed.

**Information about limitation of use:** For use only by technically qualified individuals.

**Other regulations, limitations and prohibitive regulations**

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.** Substance is not listed.

**The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.**

Substance is not listed.

**Annex XIV of the REACH Regulations (requiring Authorisation for use)** Substance is not listed.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:** Global Marketing Department

**Date of preparation / last revision** 01/19/2017 / -

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

vPvB: very Persistent and very Bioaccumulative

ACGIH: American Conference of Governmental Industrial Hygienists (USA)

OSHA: Occupational Safety and Health Administration (USA)

NTP: National Toxicology Program (USA)

IARC: International Agency for Research on Cancer

EPA: Environmental Protection Agency (USA)

: Flammable liquids, Hazard Category 4

Org. Perox. CD: Organic Peroxides, Types C, D

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1