

Material Safety Data Sheet

tert-Butyl hydroperoxide, 70% solution in water

ACC# 24043

Section 1 - Chemical Product and Company Identification

MSDS Name: tert-Butyl hydroperoxide, 70% solution in water

Catalog Numbers: AC180340000, AC180340050, AC180342500, AC180345000

Synonyms: 1,1-Dimethylethylhydroperoxide; 2-Hydroperoxy-2-methylpropane, TBHP; Trigonox A-W70.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
75-91-2	tert-Butyl hydroperoxide	70	200-915-7
7732-18-5	Water	30	231-791-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 43 deg C.

Danger! Causes digestive and respiratory tract burns. Organic peroxide. Heat or contamination may cause hazardous decomposition. Peroxides and decomposition products are flammable and can ignite with explosive force if confined. Causes eye and skin burns. Harmful if swallowed, inhaled, or absorbed through the skin. **Flammable liquid and vapor.** May cause allergic skin reaction. May cause kidney damage.

Target Organs: Kidneys, eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes eye burns. May cause eye injury.

Skin: Harmful if absorbed through the skin. Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

Ingestion: Harmful if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns. Direct aspiration into the lungs may cause chemical pneumonitis, pulmonary edema, and hemorrhaging.

Inhalation: May cause allergic respiratory reaction. May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Chronic: Not available. Kidney lesions, resembling those seen in alpha-2-microglobulin nephropathy, were reported in male rats following doses of 10 and 30 mg/kg/day for 45 days.

Section 4 - First Aid Measures

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid immediately. Wash clothing before reuse.

Ingestion: If swallowed, do NOT induce vomiting. Get medical aid immediately. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: Evacuate area and fight fire from a safe distance. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Strong oxidizer. Contact with other material may cause fire. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Sensitive to static discharge.

Extinguishing Media: Use water fog or spray, dry chemical, foam or carbon dioxide.

Flash Point: 43 deg C (109.40 deg F)

Autoignition Temperature: Not available.

Explosion Limits, Lower:Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 2; Instability: 2; Special Hazard: OX

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Use a spark-proof tool. Isolate area and deny entry. Provide ventilation. If permitted to enter sewers, this material may create a fire or explosion hazard.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Avoid contact with clothing and other combustible materials. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation.

Storage: Keep away from sources of ignition. Store in a tightly closed container. Keep refrigerated. (Store below 4°C/39°F.) Store below 40°C. Store in a cool, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. 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.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
tert-Butyl hydroperoxide	none listed	none listed	none listed
Water	none listed	none listed	none listed

OSHA Vacated PELs: tert-Butyl hydroperoxide: No OSHA Vacated PELs are listed for this chemical. Water: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: 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.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: characteristic odor

pH: Not available.

Vapor Pressure: 23 mm Hg @ 25 deg C

Vapor Density: 3.1 (air=1)

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 37 deg C @ 15 mm Hg

Freezing/Melting Point: -2.8 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 0.935 @ 25°C

Molecular Formula: C₄H₁₀O₂

Molecular Weight: 90.12

Section 10 - Stability and Reactivity

Chemical Stability: A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by direct contact with incompatible substances or by thermal decomposition at and above the SADT (see Section 16). This product is stable at temperatures up to 50°C.

Conditions to Avoid: Ignition sources, excess heat.

Incompatibilities with Other Materials: Reducing agents, strong acids, strong bases, amines, heavy metals.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 75-91-2: EQ4900000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 75-91-2:

Draize test, rabbit, eye: 7 mg;

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, eye: 70 uL Severe;

Draize test, rabbit, eye: 75%;
Draize test, rabbit, eye: 0.02 mL;
Draize test, rabbit, skin: 500 mg;
Draize test, rabbit, skin: 500 mg/24H Severe;
Inhalation, mouse: LC50 = 350 ppm/4H;
Inhalation, mouse: LC50 = 1800 mg/m3/4H;
Inhalation, rat: LC50 = 500 ppm/4H;
Inhalation, rat: LC50 = 1800 mg/m3/4H;
Oral, mouse: LD50 = 320 mg/kg;
Oral, mouse: LD50 = 320 mg/kg;
Oral, rat:
CAS# 7732-18-5:
Oral, rat: LD50 = >90 mL/kg;
.

Carcinogenicity:

CAS# 75-91-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information present.

Teratogenicity: No information present.

Reproductive Effects: No information present.

Mutagenicity: No information present.

Neurotoxicity: No information present.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	ORGANIC PEROXIDE TYPE F, LIQUID	ORGANIC PEROXIDE TYPE F, LIQUID (TERT-BUTYL HYDROPEROXIDE)
Hazard Class:	5.2	5.2
UN Number:	UN3109	UN3109
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 75-91-2 is listed on the TSCA inventory.

CAS# 7732-18-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 75-91-2: immediate, fire, reactive.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

CAS# 75-91-2 is considered highly hazardous by OSHA.

STATE

CAS# 75-91-2 can be found on the following state right to know lists: New Jersey, Pennsylvania, Massachusetts.

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

O C

Risk Phrases:

R 10 Flammable.

R 20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

R 34 Causes burns.

R 43 May cause sensitization by skin contact.

R 7 May cause fire.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.

S 17 Keep away from combustible material.

S 24 Avoid contact with skin.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 14A Keep away from acids, reducing agents and polymerisation catalysts.

S 61 Avoid release to the environment. Refer to special instructions /safety data sheets.

S 3/7 Keep container tightly closed in a cool, well-ventilated place.

WGK (Water Danger/Protection)

CAS# 75-91-2: No information available.

CAS# 7732-18-5: No information available.

Canada - DSL/NDSL

CAS# 75-91-2 is listed on Canada's DSL List.

CAS# 7732-18-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of E, D1B, C, B3.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 75-91-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 11/12/1997

Revision #3 Date: 3/04/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.