

HEALTH 2  
FLAMMABILITY 2  
REACTIVITY 2  
AKZO NOBEL

**TRIGONOX 42S**

12/21/06

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

<b>Product name</b> Trigonox 42S	<b>Chemical description</b> tert-Butyl peroxy-3,5,5-trimethylhexanoate
	<b>Chemical formula</b> C13 H26 O3
<b>CAS-number</b> 13122-18-4	<b>Chemical family</b> Organic Peroxides/peroxyesters
<b>Supplier</b> Akzo Nobel Polymer Chemicals LLC 525 West Van Buren Street Chicago, IL 60607-3823 USA www.akzonobel-polymerchemicals.com	
<b>Emergency telephone</b> + 1-914-693-6946 Dobbs Ferry, NY USA	<b>transportation Emergency</b> CHEMTREC - USA: 1-800-424-9300 CANUTEC - CANADA: 1-613-996-6666
<b>Product use</b> Polymerization initiator	<b>product/technical information</b> 1-800-828-7929
<b>Date of first issue</b> 1994/03/31	<b>Date of last issue / Revision #</b> 2006/01/26 / 5.02

2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage(s)	CAS-number
tert-Butyl peroxy-3,5,5-trimethylhexanoate	97.0 - 100.0	013122-18-4

3. HAZARDS IDENTIFICATION

<p><b>Emergency overview</b> Clear liquid with a sharp, unpleasant odor. DANGER! ORGANIC PEROXIDE. HEAT OR CONTAMINATION MAY CAUSE HAZARDOUS DECOMPOSITION. CAUSES SKIN IRRITATION. MAY CAUSE EYE AND RESPIRATORY TRACT IRRITATION. Peroxides and decomposition products are flammable and can ignite with explosive force if confined.</p>
<p><b>Health effects</b> Skin and eye contact are the primary routes of exposure to this product. Inhalation of vapors and/or mists may cause irritation of the nose, throat and lungs. Prolonged skin contact may cause skin irritation and redness. Eye contact may cause irritation. Irritation to the mouth, throat, esophagus and stomach may be caused by ingestion of this material.</p>

4. FIRST AID MEASURES

<p><b>Inhalation</b> Remove to fresh air. If breathing becomes difficult, oxygen may be given, preferably with a physician's advice. If not breathing, give artificial respiration. Get medical attention.</p>
<p><b>Skin</b> Remove contaminated clothing and equipment. Wash all affected areas with plenty of soap and water for at least 15 minutes. DO NOT attempt to neutralize with chemical agents. Wash any contaminated clothing before reuse. Obtain medical advice if irritation occurs.</p>
<p><b>Eye</b> Immediately flush eyes with large quantities of running water for a minimum of 15 minutes. If the victim is wearing contact lenses, remove them. Take care not to contaminate the victim's healthy skin and eyes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eye and lids. DO NOT let victim rub eye(s). Do not attempt to neutralize with chemical agents. Get medical attention immediately. Oils</p>



**TRIGONOX 42S**

or ointments should not be used at this time. Continue flushing for an additional 15 minutes if a physician is not immediately available.

**Ingestion**  
DO NOT induce vomiting. Call a physician or a poison control center immediately. Give victim plenty of water to drink. Never give anything by mouth to an unconscious or convulsing person. Get medical attention immediately.

**Note to physician**  
There are no data available that address medical conditions that are generally recognized as being aggravated by exposure to this product.

**5. FIRE-FIGHTING MEASURES**

<b>Flash point</b> 219.20 °F 104.00 °C	<b>Autoignition temperature</b> not determined
<b>Flash Method</b> Seta CC	<b>Explosion limits</b> lower: N/D upper: N/D
<b>Extinguishing media</b> Use water fog or spray, dry chemical, foam or carbon dioxide extinguishing agents.	
<b>Fire fighting procedures</b> As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Evacuate non-essential personnel from the fire area. Firefighters should wear full-face, self-contained breathing apparatus and impervious protective clothing. If possible, move containers from the fire area. If not leaking, keep fire exposed containers cool with a water fog or spray to prevent rupture due to excessive heat. High pressure water may spread product from broken containers increasing contamination or fire hazard. Contaminated buildings, areas and equipment must not be used until they are properly decontaminated. Dike fire water for later disposal. Do not allow contaminated water to enter waterways.	
<b>Fire and explosion hazard</b> Peroxides and decomposition products are flammable and can ignite with explosive force if confined. This product can produce flammable vapors which may travel to a source of ignition and flash back. Product is sensitive to static discharge.	
<b>Hazardous products of combustion</b> Thermal decomposition produces oxides of carbon and/or hazardous fumes, vapors and/or gasses.	

**NFPA ratings**

Hazard	Rating
Health	2
Flammability	2
Reactivity	2
Other	

**6. ACCIDENTAL RELEASE MEASURES**

**Methods for cleaning up**  
Remove all sources of ignition from the spill area. Stop source of spill. If tools are needed, they should be non-sparking. Dike area to prevent spill from spreading. If permitted to enter sewers, this material may create a fire or explosion hazard. Ventilate enclosed areas to prevent formation of flammable or oxygen deficient atmosphere. A water fog, fine spray or blanket of fire-fighting foam can be used to reduce vapors. Evacuate all non-essential personnel upwind. Any person entering an area of a significant spill or of an unknown concentration of a gas or a vapor should use a NIOSH-approved, positive-pressure/pressuredemand, self-contained breathing apparatus. Protective equipment to prevent skin and eye contact should be worn. Soak up liquid with a suitable absorbent such as clay, vermiculite, sand or earth. Sweep up absorbed material and place in a chemical waste container for disposal. Contaminated areas, buildings and equipment must not be used until they are properly decontaminated. Generously cover contaminated area with a slurry of common household, powdered laundry detergent and



**TRIGONOX 42S**

water. Using a stiff brush, work the slurry into cracks and crevices. Allow to stand for 2-3 minutes. Then flush with water. Repeat if necessary. Dike water for later disposal. Do not allow contaminated water to enter waterways.

**7. HANDLING AND STORAGE**

**Handling**  
Containers should be located in an area where they can be rotated regularly (first in, first out) and visually inspected for damage or bulging on a regular basis.  
Use approved equipment for transport of containers to avoid puncturing or rupturing containers. Do not use air pressure to empty containers.  
Protective equipment should be worn when handling this product to avoid eye and skin contact.  
Emptied container may retain product residues. Follow all warnings and precautions even after container is emptied.

**Storage**  
To insure product quality, storage temperature should not exceed 77 F (25 C). To insure against possible exothermic self-accelerating decomposition, storage temperatures must not exceed 122 F (50 C). This emergency temperature is derived from the SADT (see Section 9). Keep containers tightly closed. Store away from reducing agents and accelerators.

**Maximum storage temperature**  
77.00 F 25.00 C

**General comments**  
Containers should not be opened until ready for use. Use clean non-sparking equipment and tools when handling.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Respiratory protection**  
Use a NIOSH-approved organic vapor respirator with dust, mist and fume filters to reduce potential for inhalation exposure if use conditions generate vapor, mist or aerosol and adequate ventilation (e.g., outdoor or well-ventilated area) is not available. Where exposure potential necessitates a higher level of protection, use a NIOSH-approved, positive-pressure/pressure-demand, air-supplied respirator.  
When using respirator cartridges or canisters, they must be changed frequently (following each use or at the end of the workshift) to assure breakthrough exposure does not occur.

**Skin protection**  
Skin contact with liquid or its aerosol should be minimized through the use of suitable protective clothing, gloves and footwear selected with regard for use condition exposure potential.  
Neoprene and nitrile rubber are recommended.

**Eye protection**  
Eye contact with liquid or aerosol must be prevented through the use of chemical safety goggles or a face shield selected with regard for use condition exposure potential.  
Eye wash fountains or other means of washing the eyes with a gentle flow of water should be readily available in all areas where this product is handled or stored. Water should be supplied through insulated and/or heat-traced pipes to prevent freeze-up in winter.

**ventilation protection**  
Sufficient to prevent hazardous accumulation of vapors or mists.

**Other information**  
Safety showers, with quick opening valves which stay open, and eye wash fountains, or other means of washing the eyes with a gentle flow of cool to tepid tap water, should be readily available in all areas where this material is handled or stored. Water should be supplied through insulated and heat-traced lines to prevent freezeups in cold weather. Long sleeved clothing may be used to minimize skin contact.

**Applicable exposure limits**  
Applicable exposure limits for this product or its components have not been developed.

Agency	Value/Unit of measurement
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**9. PHYSICAL AND CHEMICAL PROPERTIES**



**TRIGONOX 42S**

<b>Appearance and Odor</b> Clear liquid with a sharp, unpleasant odor.	<b>pH value</b> not determined
<b>Odor threshold (ppm)</b> not determined	<b>Relative vapour density (air=1)</b> < 1
<b>Volatile %</b> not determined	<b>Vapour pressure (mm Hg)</b> not determined
<b>Boiling point/range</b> not determined	<b>Evaporation rate</b> not determined
<b>Melting point/range</b> -22.00 F -30.00 C	
<b>Cloud point</b> not determined	<b>Pour point</b> not determined
<b>Flash point</b> 219.20 F 104.00 C	<b>Solubility in water</b> Insoluble
<b>Flashpoint method</b> Seta CC	<b>Solubility in other solvents</b> not determined
<b>Autoignition temperature</b> not determined	
<b>Density</b> approx. 0.897 @ 20 deg C (68 deg F)	<b>Partition coefficient n-octanol/water</b> not determined
<b>Bulk density</b> not determined	
<b>Other information</b> SADT = 131 F (55 C) (See Section 10).	<b>Explosion limits</b> lower: N/D upper: N/D

**10. STABILITY AND REACTIVITY**

<b>Stability</b> This product is stable at ambient temperatures but may decompose if exposed to temperatures above 122 F (50 C.).
<b>Incompatibilities</b> This product is incompatible with strong acids, strong alkalis, reducing agents and accelerators.
<b>Polymerization</b> Hazardous polymerization will not occur.
<b>Decomposition</b> Burning may produce carbon dioxide and/or carbon monoxide. Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant.
<b>Conditions to avoid</b> The SADT for this product is 131 F (55 C). The SADT (self accelerating decomposition temperature) is an experimentally derived temperature at which a typical package of the product will undergo self accelerating decomposition. Decomposition can be expected to be hazardous and uncontrollable. Under no circumstances should this product be exposed to temperatures near or above the emergency temperature of 122 F (50 C). Such an exposure could initiate hazardous decomposition. Contact with incompatible materials such as acids, alkalis, heavy metals and reducing agents will also result in hazardous decomposition.

**11. TOXICOLOGICAL INFORMATION**

<b>Oral LD50</b>	The oral LD50 (rats) for tert-butyl peroxy-3,5,5-trimethylhexanoate is greater than 5000 mg/kg.
<b>Dermal LD50</b>	The dermal LD50 is not available. Based on tests with rabbits, moderate to severe irritation may occur.



**TRIGONOX 42S**

<b>Inhalation LC50</b>	The inhalation LC50 has not been determined. However, at 0.8 mg/L (rat, 1 hour exposure), no animals died. A concentration of 0.8 mg/L was the maximum concentration that could be put into the test atmosphere.
<b>Skin</b>	Chronic dermal exposure effects of this product are unknown. However, prolonged and/or repeated exposure may cause irritation and redness.
<b>Eye</b>	Draize Score is unknown. Based on tests with rabbits, tert-butyl peroxy-3,5,5-trimethylhexanoate is a minimal eye irritant.
<b>Chronic toxicity/carcinogenicity</b>	<p>If swallowed, this product may cause severe irritation or burns of the mouth, throat, esophagus, and stomach.</p> <p>Specific information is not available for this product. However, inhalation of mists and/or vapors may cause irritation of the nose, throat, and respiratory system.</p> <p>This product is not classified as a carcinogen by IARC, NTP, OSHA or ACGIH. The product was found not to be genetically active in the Ames test.</p> <p>The reproductive toxicity of this product is not known.</p> <p>The neurotoxic effects of this product are not known.</p> <p>Overexposure to this product may affect the skin, eyes and respiratory system.</p>
<b>Other toxicological information</b>	No other toxic effects for this product are known.

**12. ECOLOGICAL INFORMATION**

<b>Ecotoxicological information</b>	The ecological toxicity of this product is not known.
<b>Bioaccumulation</b>	Chemical fate information on this product is not known.
<b>Other information</b>	Other ecological information on this product is not known.

**13. DISPOSAL CONSIDERATIONS**

<p><b>Waste disposal in accordance with regulations</b> The characteristics of Ignitability (D001) and Reactivity (D003) as per RCRA, would be exhibited by unused product if it becomes a waste material. It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristic or listing. All waste should be disposed of in accord with federal, state and local regulations. Note: State and/or local regulations may be more stringent than federal regulations.</p>
<p><b>Container disposal</b> Containers should be drained of residual product before disposal. Empty containers should be disposed of in accordance with all applicable laws and regulations.</p>

**14. TRANSPORT INFORMATION**




<b>Shipping description</b>	ORGANIC PEROXIDE TYPE D, LIQUID (TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE, 97%) 5.2, UN3105, PG II NORTH AMERICAN ERG NO: 145
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**TRIGONOX 42S**

<b>Required labels</b>	ORGANIC PEROXIDE.
<b>Environmentally hazardous substance</b>	This product does not contain an environmentally hazardous substance per 49 CFR 172.101, Appendix A.

**15. REGULATORY INFORMATION**

<b>Products and/or components listed below are subject to the following:</b>	
<b>tert-Butyl peroxy-3,5,5-trimethylhexanoate</b>	
New Jersey R-T-K Hazard. Sub.	yes
Toxic Subst. Cont. Act -listed	yes
Domestic Substance List-Canada	yes

<b>Hazard classes</b>				
<b>Description</b>	<b>Applicable</b>			
EPA Immediate health	yes			
EPA Delayed health	no			
EPA Fire	yes			
EPA Pressure	no			
EPA Reactive	yes			
EHS Material	no			
HMIS Hazard Rating Source	HMIS			
HMIS Health	2			
HMIS Flammability	2			
HMIS Reactivity	2			
WHMIS Hazard classes	C,D-2B,F			
				

**Other regulatory information**

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 the Controlled Products Regulations.

**16. OTHER INFORMATION**

<b>Other information</b> TRIGONOX is a registered trademark of Akzo Nobel Chemicals Inc.
<b>Created by</b> B. McHenry, Regulatory Affairs - North America
<small>The information in this material safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. All information concerning this product and/or suggestions for handling and use contained herein are offered in good faith and are believed to be reliable as of the date of publication. However, no warranty is made as to the accuracy of and/or sufficiency of such information and/or suggestions as to the merchantability or fitness of the product for any particular purpose, or that any suggested use will not infringe any patent. Nothing in here shall be construed as granting or extending any license under any patent. Buyer must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old, call to make certain that this sheet is current.</small>