

TRIGONOX 187-C30

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Identifier Diisobutyl peroxide, 30% solution in odorless mineral spirits	
Supplier Akzo Nobel Polymer Chemicals LLC 525 West Van Buren Street Chicago, IL 60607-3823 www.akzonobel.com/polymer	
Emergency telephone +1-914-693-6946 Chicago, IL USA	transportation emergency CHEMTREC - USA: 1-800-424-9300 CANUTEC - CANADA: 1-613-996-6666
Relevant identified uses of the substance or mixture polymerization initiator	
Date of last issue / Revision number 2009/08/25 / 3.05	
Chemical family peroxides	

2. HAZARDS IDENTIFICATION

Emergency overview DANGER! REFRIGERATED ORGANIC PEROXIDE - MAINTAIN COOLING HEAT OR CONTAMINATION MAY CAUSE HAZARDOUS DECOMPOSITION COMBUSTIBLE LIQUID AND VAPOR CAUSES SKIN BURNS CAUSES EYE IRRITATION MAY CAUSE HEADACHE, DIZZINESS AND NAUSEA ASPIRATION HAZARD; MAY CAUSE LUNG DAMAGE IF SWALLOWED PROLONGED OR REPEATED EXPOSURE MAY CAUSE KIDNEY DAMAGE (BASED ON ANIMAL DATA) Peroxides and peroxide decomposition products are flammable and can ignite with explosive force if confined.	
Appearance colorless clear liquid with faint odor.	
Health effects Skin contact, eye contact and inhalation are the primary routes of exposure to this product. Overexposure may cause central nervous system depression with drowsiness, dizziness, headache and nausea. Corrosive to skin. Causes burns. Irritating to eyes. If swallowed, this product may cause severe irritation or burns of the mouth, throat, esophagus and stomach. Aspiration of the liquid during vomiting may cause lung damage.	
Carcinogenicity	
Description	Applicable
IARC	no
NTP	no
OSHA	no
ACGIH	no

3. COMPOSITION/INFORMATION ON INGREDIENTS

Information on hazardous ingredients			
Chemical description Diisobutyl peroxide, 30% solution in odorless mineral spirits			
Composition / information on ingredients			
Number	% w/w	CAS-number	Chemical name

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1	69 - 71	064742-48-9	Naphtha (petroleum), hydrotreated heavy
2	29 - 31	003437-84-1	Diisobutryl peroxide

Other information

This material is classified as hazardous under OSHA regulations.

4. FIRST AID MEASURES

Most important symptoms and effects

Causes burns. Harmful: may cause lung damage if swallowed. Causes injury to the cornea and eyelids. Risk of serious damage to eyes.

Description of first aid measures

General

Call a physician immediately.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Oxygen may additionally be given, by trained personnel, if it is available. Get medical attention immediately.

Skin

Immediately start continuous flushing of skin with water for at least 15 minutes, while removing contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse. Thoroughly clean or destroy contaminated shoes.

Eye

Immediately start continuous flushing of eyes with water for at least 15 minutes. If easy to do, contact lenses should be removed during the flushing, by trained personnel. Hold the eyelids apart during the flushing to ensure rinsing the entire surface of the eye and lids with water. Get medical attention immediately.

Ingestion

DO NOT induce vomiting. Get medical attention immediately by calling a physician or a poison control center. If victim is conscious and alert, give a cupful of water. Never give anything by mouth to an unconscious or convulsing person. If vomiting occurs, the patient should lie on their left side while vomiting to reduce the risk of aspiration.

Indication of any immediate medical attention and special treatment needed

Persons with pre-existing skin, respiratory, and/or central nervous system disease may be at increased risk if exposed to this material.

This material is severely corrosive to the eyes and may cause delayed keratitis. The normally prescribed 15 minute eye irrigation after exposure may be difficult because of the severe pain. The prior installation of a topical ocular anesthetic is essential to facilitate a comprehensive ocular lavage. If swallowed, do not induce vomiting. Give patient plenty of water to drink. Ingestion of this corrosive material may result in severe ulceration, inflammation, and possible perforation of the upper alimentary tract, with hemorrhage and fluid loss. Aspiration of this material during induced emesis can result in severe lung injury. Contact a Poison Control Center for additional treatment information. Treat any additional effects symptomatically.

5. FIRE-FIGHTING MEASURES

Extinguishing media

waterspray, foam, sand, dry chemical powder, CO₂.

Unsuitable extinguishing media

halons.

Hazardous decomposition / combustion products

CO₂, Carbon monoxide.
Propane, Propene.

Protective equipment

Firefighters must wear fire resistant protective equipment. Wear approved respirator and protective gloves.

Other information

Evacuate all non-essential personnel. Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition. Cool closed containers with water. Water used to extinguish a fire should not be allowed to enter the drainage system or water courses. After a fire, ventilate thoroughly the area and soak with water, clean the walls and metallic surfaces.

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Fire and explosion hazard

CAUTION: reignition may occur. Decomposition under effect of heating (See also Section Hazardous decomposition products). If involved in a fire, it will support combustion. Vapors may form explosive mixtures with air. In case of fire and/or explosion do not breathe fumes.

NFPA ratings

Hazard classes	Rating
Health	3
Flammability	3
Reactivity	2
Other information	

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Do not breathe fumes/vapor. Avoid contact with skin and eyes. For personal protection see Section 8.

Environmental precautions

Do not allow to enter drains or water courses.

Methods and material for containment and cleaning up

Stop leakage if possible. Eliminate all sources of ignition, and do not generate flames or sparks. Take precautionary measures against static discharges. Transfer remaining product from leaking container to a clean and suitable container. Cover the remainder with inert absorbent (e.g. vermiculite) for disposal. Keep contents moist. The waste should NOT be confined. Flush surroundings with large amounts of water and soap.

Other information

CAUTION: reignition may occur. Vapors are heavier than air and may spread along floors. Vapors may travel to a source of ignition and flash back. Evacuate personnel to safe area.

7. HANDLING AND STORAGE

Precautions for safe handling

Never weigh out in the storage room. When using do not eat, drink or smoke. Do not pipet by mouth. Do not breathe fumes/vapor. Handle in well ventilated areas. Eliminate all sources of ignition, and do not generate flames or sparks. Take precautionary measures against static discharges. Apply grounding when transferring from one container to another. Keep away from reducing agents (e.g. amines), acids, alkalis and heavy metal compounds (e.g. accelerators, driers, metal soaps). Keep product and emptied container away from heat and sources of ignition. Confinement must be avoided. Avoid contact with skin and eyes. Avoid Incompatible materials (See Section 10).

Fire and explosion prevention

Use explosion protected equipment. Keep away from sources of ignition - No smoking. Vapors are heavier than air and may spread along floors. Use non-sparking tools in areas where explosive vapor/air mixtures may occur. Do not cut or weld on or near this container even when empty.

Conditions for safe storage

Store in accordance with local/national regulations. Keep away from food, drink and animal feedingstuffs. Store in a dry well ventilated place away from sources of heat and direct sunlight. Store separate from other chemicals. Keep only in the original container. Keep container upright to prevent leakage.

Storage

For maximum quality store below: -20 °C.

For safety, store below -20 °C.

Other information

It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded. Wash hands thoroughly after handling or contact. Keep work clothes separate and do not take them home.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Ensure good ventilation and local exhaustion of the working area. Explosion proof ventilation recommended.

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Personal protection	
Respiratory	In case of insufficient ventilation wear suitable respiratory equipment (respirator with Filter A).
Hand	Wear suitable protective gloves of neoprene or synthetic rubber.
Eye	Wear eye/face protection.
Skin and body	Wear suitable protective clothing.
Other information	Emergency-shower and facilities for rinsing eyes must be accessible. Launder clothes before reuse.

Naphtha (petroleum), hydrotreated heavy		
OSHA TLV/TWA		2900 mg/m ³
ACGIH TLV/TWA		525 mg/m ³
NIOSH REL/TWA		350 mg/m ³
NIOSH REL/CEILING		1800 mg/m ³
SUPPLIER TWA		1370 mg/m ³
AIHA WEEL/TWA		40 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	liquid
Color	colorless clear
Odor	faint
Boiling point/range	not applicable (Decomposes)
Melting point/freezing point	not determined
Flash point	Above the SADT value
Flammability	Decomposition products may be flammable.
Explosive properties	no
Oxidizing properties	not applicable
Vapor pressure	0.31 kPa (34°C / 93°F)
Density	846 kg/m ³ (-20°C / -4°F) Specific gravity = 0.846 (-20°C / -4°F)
Bulk density	not applicable
Solubility in water	immiscible

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Solubility in other solvents not determined
pH value neutral
Partition coefficient n-octanol/water not determined
Relative vapor density (air=1) not determined
Viscosity 3.7 mPa.s (-20°C / -4°F)
Active oxygen content 2.8%
Peroxide content 30%
Autoignition temperature Test method not applicable (See Section 7)
SADT 0 °C. See also Section 10.
Upper/lower flammability or explosive limits not determined
Volatile % not determined

10. STABILITY AND REACTIVITY

Chemical stability
SADT - (Self accelerating decomposition temperature) is the lowest temperature at which self accelerating decomposition may occur with a substance in the packaging as used in transport. A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by thermal decomposition at and above the following temperature: 0 °C. Contact with incompatible substances can cause decomposition at or below the SADT 0 °C.
To insure against possible exothermic self-accelerating decomposition, storage temperatures must not exceed emergency temperature of -10 °C.
Conditions to avoid
Under no circumstances should this product be exposed to temperatures above the emergency temperature of -10 °C. If the product temperature exceeds -10 °C all available means shall be used to bring the temperature under control and the emergency procedures shall be started. Emergency procedures will vary depending on conditions. Contact Akzo Nobel for assistance with developing an emergency response plan.
To maintain quality store in original closed container below: -20 °C.
Confinement must be avoided.
Incompatible materials
Avoid contact with rust, iron and Copper. Contact with incompatible materials such as acids, alkalies, heavy metals and reducing agents will result in hazardous decomposition. Do not mix with peroxide accelerators. Use only Stainless steel 316, PP, polyethylene or glass-lined equipment . Contact Akzo Nobel for more information.
Possibility of hazardous reactions
Polymerization does not occur.
Hazardous decomposition products
Hazardous decomposition products; Propane, Propene.
Other information
Emergency procedures will vary depending on conditions. The customer must have an emergency response plan in place. Contact Akzo Nobel for assistance with developing an emergency response plan.

11. TOXICOLOGICAL INFORMATION

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No experimental toxicological data on the preparation as such available. The following data are applicable to the ingredient(s) listed below.

Diisobutyl peroxide, 30 % in Naphtha cracking C4-11 hydrocarbons, arom.-free**Acute toxicity****Oral LD50**

rat:> 2000 mg/kg

Irritation**Skin**

Corrosive (4 hours exposure time)

Eye

irritation

Genotoxicity

Ames test: Not mutagenic

12. ECOLOGICAL INFORMATION

No experimental ecological data are available on the preparation as such.

13. DISPOSAL CONSIDERATIONS

Product

Due to the high risk of contamination recycling/recovery is not recommended. Waste disposal in accordance with regulations (most probably controlled incineration).

Contaminated packaging

According to local regulations. Emptied container might retain product residues. Follow all warnings even after the container is emptied. Do not shred containers before they are thoroughly cleaned from product residues.

Other information

For further advice contact manufacturer.

14. TRANSPORT INFORMATION

*Land transport***Transport hazard class**

5.2

TREM-Card or ERG number

NA ERG No.: 148

UN number

3115

Proper Shipping Name

Organic peroxide type D, liquid, temperature controlled (Diisobutyl peroxide, 30%)

Other information

This product does not contain an environmentally hazardous substance per 49 CFR 172.101, Appendix A.

Required labels

5.2

EMERGENCY TEMPERATURE: -10 °C.

CONTROL TEMPERATURE: -20 °C.

The control temperature is the maximum temperature at which the formulation can be transported safely during a prolonged period of time.

Sea transport (IMO / IMDG-code)**Transport hazard class**

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UN number 3115
EMS F-F, S-R
Marine pollutant no
Proper Shipping Name Organic peroxide type D, liquid, temperature controlled (Diisobutyl peroxide)
Other information Label(s): 5.2
EMERGENCY TEMPERATURE: -10 °C.
CONTROL TEMPERATURE: -20 °C.
The control temperature is the maximum temperature at which the formulation can be transported safely during a prolonged period of time.


Air transport (ICAO-TI / IATA-DGR)
UN number Forbidden

15. REGULATORY INFORMATION

Product and or components listed below are subject to the following	
Naphtha (petroleum), hydrotreated heavy	
US Toxic Subst. Cont. Act (TSCA)	yes
Non-Domestic Subst.List-Canada	no
Domestic Substance List-Canada	yes
Diisobutyl peroxide	
New Jersey R-T-K Hazard. Sub.	yes
US Toxic Subst. Cont. Act (TSCA)	yes
Non-Domestic Subst.List-Canada	yes
Domestic Substance List-Canada	no
Connecticut Hazardous Material Survey	yes

Hazard classes	
Description	Applicable
EPA Immediate health	yes
EPA Delayed health	yes
EPA Fire	yes
EPA Pressure	no
EPA Reactive	yes
EHS Material	no
Hazard Rating Source	HMIS
HMIS Health	3

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HMIS Flammability	3
HMIS Reactivity	3
WHMIS Hazard classes	C,F,B-2,D-2B,E
	

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

History
Other information TRIGONOX: This is a registered trademark of Akzo Nobel Chemicals BV or any of its affiliated companies in one or more territories in the world.
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Revision 3.05
Composed by Regulatory Affairs - North America, T +1-312-544-7000. Regulatory Affairs - Europe.
Changes were made in section 14, Land transport
<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>