



MATERIAL SAFETY DATA SHEET

Syrgis Performance
Initiators, Inc.
Helena, AR

NOROX[®] 500

SECTION 1 - IDENTIFICATION OF THE PRODUCT AND THE COMPANY

PRODUCT NAME	NOROX[®] 500	TELEPHONE	870-572-2935
MANUFACTURER	Syrgis Performance Initiators, Inc.	CHEMTREC (24hr) (USA)	800-424-9300
ADDRESS	334 Phillips 311 Rd., Helena, AR 72342	(Maritime/International)	703-527-3887
CHEMICAL NAME	1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	CAS NO.	6731-36-8
CHEMICAL FAMILY	Peroxyketal Peroxide	CHEMICAL FORMULA	C ₁₇ H ₃₄ O ₄

SECTION 2 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>COMPONENTS</u>	<u>CAS NO.</u>	<u>%</u>
1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane	6731-36-8	>90
Di-tert-butylperoxide	110-05-4	≤6
3,3,5-trimethylcyclohexanone and others	873-94-9	≤3

SECTION 3 - HAZARD IDENTIFICATION OF THE PREPARATION

PHYSICAL HAZARDS	Organic Peroxide. Decomposition. Combustible Liquid.
HEALTH HAZARDS	Irritant.
EXPOSURE LIMITS	Both ACGIH and OSHA PEL have not been established for this chemical.
ROUTES OF EXPOSURE	
Skin Contact	May cause slight skin irritation, including redness and swelling, drying, scaling, thickening, depigmentation, and hair loss.
Eye Contact	May cause slight eye irritation, including redness and swelling.
Ingestion	No known applicable information. Similar products may cause irritation of mucous membranes and transient urinary incontinence.
Inhalation	No known applicable information.
EFFECTS OF OVER-EXPOSURE	No known applicable information.

SECTION 4 - FIRST-AID MEASURES

SKIN	Wash contaminated area thoroughly with soap and water.
EYES	Remove any contact lenses at once. Flush eyes with water for at least 20 - 30 minutes and seek medical attention.
INGESTION	Contact a physician, hospital or Poison Control Center at once. DO NOT INDUCE VOMITING. If conscious and not convulsing, give a glass of milk or water.
INHALATION	Remove to fresh air, if coughing, breathing becomes labored, irritation develops or other symptoms develop, seek medical attention at once, even if symptoms develop several hours after the exposure.

SECTION 5 - FIRE-FIGHTING MEASURES

FLASH POINT	181°F (83°C), ISO3679/80, SETAFLASH
FLAMMABLE LIMITS	Not established.
AUTOIGNITION POINT	853°F (456°C)
EXTINGUISHING MEDIA	Water from a safe distance - preferably with a fog nozzle. In case of very small fires, other means such as carbon dioxide, foam or dry chemical extinguishers may be effective.
SPECIAL FIRE FIGHTING PROCEDURES	Firemen should be equipped with protective clothing and SCBA's. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. In case of fire near storage area, cool the containers with water spray.
UNUSUAL FIRE AND EXPLOSION HAZARDS	The heat of decomposition of the peroxides adds to the heat of the fire. Chemicals may explode when exposed to heat.

NOROX[®] 500**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

STEPS TO BE TAKEN IN EVENT OF SPILL OR RELEASE	Evacuate area of all unnecessary personnel. Remove all sources of ignition. Refer to protective measures listed in sections 7 and 8. Spilled material should be swept up with an inert, moist diluent such as perlite, vermiculite, or sand. Keep spilled material from entering drains, sewers, streams, etc. Carefully collect the material and transfer into a clean polyethylene lined or a polyethylene drum disposal container. Add water to container. Label container and store in a secure area for proper disposal.
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SECTION 7 - HANDLING AND STORAGE

HANDLING	Rotate stock using the oldest material first. Avoid contact with skin, eyes and clothing. Use PPE as specified in Section 8. Keep containers closed to prevent contamination. Keep away from sources of heat, sparks or flame. Do not add to hot solvents or monomers as a violent decomposition and/or reaction may result. Keep in original container. <u>DO NOT USE NEAR FOOD OR DRINK</u> . Wash thoroughly after handling.
STORAGE	The stability of NOROX [®] 500 is directly related to the shipping and storage temperature history. Cool storage at 80°F (27°C) or below is recommended for longer shelf life and stability. Prolonged storage at elevated temperatures of 100°F (38°C) and higher will cause product degradation, gassing and potential container rupture which can result in a fire and/or explosion. Store out of direct sunlight in a well ventilated area away from combustible and incompatible materials. <u>DO NOT STORE WITH FOOD OR DRINK</u> . Refer to NFPA 432 Code for the Storage of Organic Peroxide Formulations from the National Fire Protection Association for additional storage information.
OTHER PRECAUTIONS	Unmixed, uncontaminated material, remaining at the end of the day, shall be returned to a proper organic peroxide storage area. Under no circumstances should material be returned to the original container.

SECTION 8 - EXPOSURE CONTROL/PERSONAL PROTECTION

VENTILATION	Use adequate ventilation.
RESPIRATORY PROTECTION	Not generally required unless necessary to prevent respiratory irritation. If necessary use NIOSH approved cartridge respirator with organic vapor cartridges. In case of spill or leak of unknown concentration, use NIOSH approved supplied air respirator.
EYE PROTECTION	Safety goggles recommended, goggles with a face shield are preferred.
HAND PROTECTION	Protective gloves recommended, solvent resistant.
OTHER	A safety shower and eyewash is highly recommended when the risk of a significant exposure exists.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR:	Transparent to slightly yellow liquid with a particular odor.		
BOILING POINT:	Decomposes.	SPECIFIC GRAVITY:	.91
VAPOR PRESSURE:	4.3 mmHg	FLASH POINT:	181°F (83°C), SETAFLASH
VAPOR DENSITY:	Not established.	FLAMMABLE LIMITS:	Not established.
EVAPORATION RATE:	Not established.	SADT:	~ 60°C (140°F)
% VOLATILE BY VOLUME:	Not established.	pH:	Not applicable.
SOLUBILITY IN WATER:	Insoluble.		

SECTION 10 - STABILITY AND REACTIVITY

STABILITY	Unstable.
CONDITIONS TO AVOID	Contamination. Direct sunlight. Open flames. Sparks. Prolonged storage above 100°F (38°C). Temperatures above SADT. Storage near flammable or combustible materials.
MATERIALS TO AVOID	Promoters, accelerators, organometallic compounds, strong acids, corrosives, oxidizing and reducing agents, or any hot material.
HAZARDOUS DECOMPOSITION PRODUCTS	Ketones, acetone, t-butanol and etc.
HAZARDOUS POLYMERIZATION	Will not occur.

NOROX[®] 500**SECTION 11 - TOXICOLOGICAL INFORMATION****1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane (75% in dibutyl phthalate)****Hazard Data:**

Inhalation: Rat--LC₅₀: >800 mg/l (male), Rat--LC₅₀: >400<800 mg/l (female),
Rat--LC₅₀: >800 mg/l [4hr] (combined).

Intradermal: Rabbit--LD₅₀: >8000 mg/kg.

Oral: Rat--LD₅₀: > 12,918 mg/kg.

SECTION 12 - ECOLOGICAL INFORMATION

This product has to be classified as being dangerous to water. The product should be prevented from entering drains, sewers, streams, etc.

1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane (75% in dibutyl phthalate)**Hazard Data:**

Toxicity: D. magna--EC₅₀: 0.133mg/l [48hr].

Biodegradability: Closed Bottle Test, 301D--2% after 28 days, 37% after 112 days.

SECTION 13 - DISPOSAL CONSIDERATIONS

Prevent material from entering drains, sewers, streams, etc.

Immediately dispose of waste material at a RCRA approved hazardous waste management facility in accordance with federal, state and local regulations.

Controlled burning is the preferred disposal method. This material may be burned in a chemical incinerator equipped with an afterburner and a scrubber. Dilution of peroxide to no more than 1% of the active oxygen or no more that 10wt% of the concentration (whichever is lower) in an inert organic solvent (which are readily soluble with the peroxide) is recommended.

SECTION 14 - TRANSPORT INFORMATION

DOT Shipping Name:	ORGANIC PEROXIDE TYPE B, LIQUID (1,1-Di-(tert-butylperoxy)-3,3,5-trimethylcyclohexane, >90%)
DOT Hazard Class:	5.2 (1)
UN/NA ID No.:	UN3101
DOT Packing Group:	PG II
Labels:	5.2 (Organic Peroxide), 1 (Explosive, subsidiary)
2004 ERG GUIDE NO.:	146

SECTION 15 - REGULATORY INFORMATION

The following chemicals are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Percent</u>
NONE	N/A	N/A

Australian Inventory of Chemical Substances (AICS)

The ingredients in this product are listed in the Australian AICS Inventory.

Canadian Domestic Substances List (DSL)

The ingredients in this product are listed in the Canadian DSL Inventory.

Chinese Inventory of Existing Chemical Substances Manufactured or Imported in China (IECSC)

The ingredients in this product are listed in the Chinese IECSC Inventory.

European Inventory of Existing Commercial Chemical Substances (EINECS)

The ingredients in this product are listed in the European EINECS Inventory.

Japanese Existing and New Chemical Substances (ENCS)

The ingredients in this product are listed in the Japanese ENCS Inventory.

Korean Existing Chemicals List (ECL)

The ingredients in this product are listed in the Korean ECL Inventory.

NOROX[®] 500**US Toxic Substances Control Act (TSCA)**

The ingredients in this product are listed in the US TSCA Inventory.

Status of Carcinogenicity

Not recognized as a carcinogen by the IARC, NTP or OSHA.

SECTION 16 - OTHER INFORMATION**NFPA 432 Organic Peroxide Classification**

Class II

NFPA 704 Rating

Health
2

Flammability
3

Reactivity
3

HMIS Rating

Health
1

Flammability
2

Reactivity
3

MSDS Reference: Norox 500 MSDS 0709

DISCLAIMER OF LIABILITY

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