CADOX M-50A

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

Product label name Methyl ethyl ketone peroxide solution in aliphatic ester
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

Intended use Curing agent.
Date of last issue / Revision number 2010/03/30 / 1.05
Chemical family peroxides

2. HAZARDS IDENTIFICATION

Emergency overview **DANGER!** ORGANIC PEROXIDE HEAT OR CONTAMINATION MAY CAUSE HAZARDOUS DECOMPOSITION COMBUSTIBLE LIQUID AND VAPOR CAUSES EYE AND SKIN BURNS MAY BE HARMFUL IF SWALLOWED 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. Skin; Causes burns. Eye; Causes burns. Causes injury to the cornea and eyelids. Risk of serious damage to eyes. May be harmful if swallowed.
Carcinogenicity

Description	**Applicable**
IARC	no
NTP	no
OSHA	no
ACGIH	no

3. COMPOSITION/INFORMATION ON INGREDIENTS

Information on hazardous ingredients
Chemical description Methyl ethyl ketone peroxide solution in aliphatic ester
Composition / information on ingredients

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Number	% w/w	CAS-number	Chemical name
1	30 - 35	001338-23-4	Methyl ethyl ketone peroxide
2	60 - 70	006846-50-0	2,2,4-Trimethyl-1,3-pentanediol diisobutanoate
3	1 - 3	007722-84-1	Hydrogen peroxide
4	1 - 2	000078-93-3	Methyl ethyl ketone
5	0.1 - 2	007732-18-5	Water

Other information
This material is classified as hazardous under OSHA regulations

4. FIRST AID MEASURES

Symptoms and effects
Harmful if swallowed. Causes burns. Causes injury to the cornea and eyelids. Risk of serious damage to eyes.

First aid

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.

Advice to physician
Persons with pre-existing skin, eye, or respiratory disease may be at increased risk from the irritant or allergic properties of 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.

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Unsuitable extinguishing media halones.
Hazardous decomposition / combustion products Carbon dioxide, Water, Acetic acid, Formic acid, Propanoic acid, Methyl ethyl ketone
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.
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. Vapours 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	2
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 for cleaning up Stop leakage if possible. Eliminate all sources of ignition, and do not generate flames or sparks. 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. Vapours may travel to a source of ignition and flash back. Evacuate personnel to safe area.

7. HANDLING AND STORAGE

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. Keep away from reducing agents (e.g. amines), acids, alkalies 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. Use non-sparking tools in area's where explosive vapor air mixtures may occur. Do not cut or weld on or near this container even when empty.

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Storage requirements
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: 30 ℃.

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 working clothing separately and do not take them home.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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.

Methyl ethyl ketone peroxide		
OSHA PEL/CEILING	5 mg/m³	
ACGIH TLV/CEILING	0.2 ppm	
NIOSH REL/CEILING	1.5 mg/m³	
Hydrogen peroxide		
OSHA TLV/TWA	1.4 mg/m³	
ACGIH TLV/TWA	1 ppm	
NIOSH REL/TWA	1.4 mg/m³	
NIOSH IDLH	75 ppm	
Methyl ethyl ketone		
OSHA TLV/TWA	590 mg/m³	
OSHA PEL/STEL	885 mg/m³	
ACGIH TLV/TWA	200 ppm	
ACGIH TLV/STEL	300 ppm	
NIOSH REL/TWA	590 mg/m³	
NIOSH REL/STEL	885 mg/m³	
NIOSH IDLH	3000 ppm	

9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance liquid
Color colorless clear
Odor faint
Boiling point/range not applicable (Decomposes)
Melting point/range not determined
Flash point Above the SADT value
Flammability Decomposition products may be flammable.
Explosive properties no
Oxidizing properties not applicable
Vapor pressure not determined
Density approx. 1000 kg/m³ (20 ℃)
Bulk density not applicable
Solubility in water Partly miscible with water.
Solubility in other solvents not determined
pH value slightly acidic
Partition coefficient n-octanol/water not determined
Relative vapor density (air=1) not determined
Viscosity not determined
Active oxygen content 8.8 - 9.0%
Peroxide content 30-35%
Autoignition temperature Test method not applicable (See Section 7)
SADT 60 ℃. See also Section 10.
Explosion limits not applicable

10. STABILITY AND REACTIVITY

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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: 60 ℃. Contact with incompatible substances can cause decomposition at or below the SADT 60 ℃.
Conditions to avoid	
	To maintain quality store in original closed container below: 30 ℃.
	Confinement must be avoided
Incompatibles 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.	
Polymerization Polymerization does not occur.	
Hazardous decomposition products Acetic acid, Formic acid, Propanoic acid, Methyl ethyl ketone	
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

No experimental toxicological data on the preparation as such available. The following data are applicable to the ingredient(s) listed below.	
Methyl ethyl ketone peroxide, 40 % in Dimethyl phthalate	
	Acute toxicity
	Oral LD50 rat:1017 mg/kg
	Dermal LD50 rat:4000 mg/kg
	Inhalation LC50 rat:17 mg/l ; 4 hours exposure time
	Irritation
	Skin Corrosive
	Eye Corrosive
	Sensitization Not sensitizing
	Genotoxicity Ames test: Not mutagenic
Methyl ethyl ketone	
	Acute toxicity
	Oral LD50 rat: 2737 mg/kg

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Dermal LD50 rabbit 6480 mg/kg
Inhalation LC50 rat 23.5000 mg/m³
Irritation
Skin Moderately irritating
Eye Moderately irritating

12. ECOLOGICAL INFORMATION

No experimental ecological data are available on the preparation as such. The following data are applicable to the ingredient(s) listed below.
Methyl ethyl ketone peroxide, 40 % in Dimethyl phthalate
Ecotoxicity
fish Acute toxicity, 96h-LC50 = 44.2 mg/l. (Poecilia reticulata.)
bacteria Activated sludge respiration inhibition test EC50 = 48.0 mg/l.
Fate
Degradation Biotic Readily biodegradable (Closed bottle test).
Methyl ethyl ketone
Ecotoxicity
fish Lepomis macrochirus: 96h-LC50: 3.22 g/l
Fate
Degradation Biotic Readily biodegradable.
Other information Naturally occuring substance

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.
Other information For further advice contact manufacturer.

14. TRANSPORT INFORMATION

Land transport
Class 5.2

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TREM-Card or ERG number NA ERG No.: 145
UN number 3105
Proper Shipping Name Organic peroxide, type D, liquid (Methyl ethyl ketone peroxide, <=45%)
Other information This product contains the following substance(s) which are environmentally hazardous per 49 CFR 172.101, Appendix A Methyl ethyl ketone peroxide (RQ=10 lbs), Methyl ethyl ketone (RQ=5000 lbs)
Required labels Label(s); 5.2

Sea transport (IMO / IMDG-code)
Class 5.2
UN number 3105
EMS F-J, S-R
Marine pollutant no
Proper Shipping Name Organic peroxide type D, liquid; (Methyl ethyl ketone peroxide (s))
Other information Label(s); 5.2

Air transport (ICAO-TI / IATA-DGR)
UN number 3105
Class 5.2
Proper Shipping Name Organic peroxide type D, liquid; (Methyl ethyl ketone peroxide (s))
Other information Label(s); 5.2

15. REGULATORY INFORMATION

Product and or components listed below are subject to the following	
Methyl ethyl ketone peroxide	
CERCLA Hazardous Substance	yes (RQ = 10 LB)
Massachusetts Substance List	yes
New Jersey R-T-K Hazard. Sub.	yes

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Penn. Hazardous Substance list	yes
US Toxic Subst. Cont. Act (TSCA)	yes
Non-Domestic Subst.List-Canada	no
Domestic Substance List-Canada	yes
California Hazardous Substances	yes
Connecticut Hazardous Material Survey	yes
Minnesota Hazardous Substance	yes
New York Hazardous Substances	yes
Rhode Island Hazardous Substances	yes
2,2,4-Trimethyl-1,3-pentanediol diisobutanoate	
US Toxic Subst. Cont. Act (TSCA)	yes
Non-Domestic Subst.List-Canada	no
Domestic Substance List-Canada	yes
Hydrogen peroxide	
IARC Carcinogens-Grps. 1,2A,2B	
Massachusetts Substance List	yes
New Jersey R-T-K Hazard. Sub.	yes
Penn. Hazardous Substance list	yes
SARA Title III, Section 302	yes
US Toxic Subst. Cont. Act (TSCA)	yes
Non-Domestic Subst.List-Canada	no
Domestic Substance List-Canada	yes
California Hazardous Substances	yes
Connecticut Hazardous Material Survey	yes
Illinois Toxic Substances Disclosure to Es	yes
Louisiana RTK Reporting	yes
Minnesota Hazardous Substance	yes
New York Hazardous Substances	yes
Rhode Island Hazardous Substances	yes
Methyl ethyl ketone	
CERCLA Hazardous Substance	yes (RQ = 5000 LB)
Massachusetts Substance List	yes
New Jersey R-T-K Hazard. Sub.	yes
Penn. Hazardous Substance list	yes
US Toxic Subst. Cont. Act (TSCA)	yes
Non-Domestic Subst.List-Canada	no
Domestic Substance List-Canada	yes
California Hazardous Substances	yes
Connecticut Hazardous Material Survey	yes
Illinois Toxic Substances Disclosure to Es	yes
Minnesota Hazardous Substance	yes
New York Hazardous Substances	yes
Rhode Island Hazardous Substances	yes

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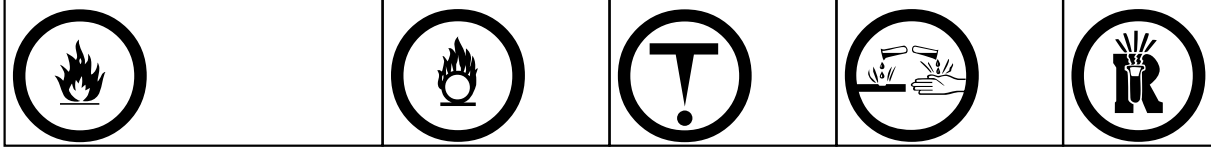
Hazard classes	
Description	**Applicable**
EPA Immediate health	yes
EPA Delayed health	no
EPA Fire	yes
EPA Pressure	no
EPA Reactive	yes
EHS Material	yes
Hazard Rating Source	HMIS
HMIS Health	3
HMIS Flammability	2
HMIS Reactivity	2
WHMIS Hazard classes	B-3,C,D-2B,E,F



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

History

Other information
CADOX: 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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1.05

Composed by
J.W. Wessels - Regulatory Affairs - Europe. N. Shoshenskiy, Regulatory Affairs - North America.

Changes were made in section

14, Land transport