SAFETY DATA SHEET
According to EC-directive 2001/58/EC

BUTANOX M-50

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

Product label name
Methyl ethyl ketone peroxide, solution in dimethyl phthalate

Supplier
Akzo Nobel Polymer Chemicals bv
Stationsstraat 77
PO Box 247
NL-3800 AE Amersfoort
The Netherlands
Tel.: +31-33 4676767

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Emergency telephone
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Akzo Nobel Chemicals-Deventer-NL

Intended use
Curing agent

Date of last issue / Revision #
2006/10/03 / 4.02

Chemical family
peroxides

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a preparation in conformance to EC directives.

Information on hazardous ingredients

Chemical description
Methyl ethyl ketone peroxide, solution in dimethyl phthalate

Composition / information on ingredients

Number	% w/w	CAS-number	Chemical name
1	30 - 37	001338-23-4	Methyl ethyl ketone peroxide
2	55 - 70	000131-11-3	Dimethyl phthalate
3	1 - 5	000078-93-3	Methyl ethyl ketone
4	1 - 3	007732-18-5	Water

	Annex-1 number	EC-number	Symbol(s)	Risk-phrase(s)
1		215-661-2	C E	R02 R07 R22 R34
2		205-011-6		none
3	606-002-00-3	201-159-0	F Xi	R11 R36 R66 R67
4		231-791-2		none

3. HAZARDS IDENTIFICATION

May cause fire.Harmful if swallowed.Causes burns.

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.

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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, 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, alcohol resistant foam, sand, dry chemical powder, CO2.

Unsuitable extinguishing media
halones.

Hazardous decomposition/ combustion products
CO2, Carbon monoxide.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.

6. ACCIDENTAL RELEASE MEASURES

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

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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. Collect as much as possible in a clean container for (preferable) reuse or disposal. 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.

Other information
CAUTION: reignition may occur. Vapours 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/vapour. 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 shock and friction. 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. Vapours are heavier than air and may spread along floors. 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.

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: 25 ℃.

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.

NR-7-UK-HSE Guidance (07)
A COSHH assessment necessary to ensure compliance.

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.

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Methyl ethyl ketone peroxide		
Short Term Exposure Limit (STEL)	1.5 mg/m³	
Dimethyl phthalate		
Short Term Exposure Limit (STEL)	10 mg/m³	
Time Weighted Average (TWA)	5 mg/m³	
Methyl ethyl ketone		
skin		Can be absorbed through skin.
Short Term Exposure Limit (STEL)	899 mg/m³	
Time Weighted Average (TWA)	600 mg/m³	

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance liquid
Colour colourless clear
Odour 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
Vapour pressure not determined
Density 1180 kg/m³ (20℃ / 68℉)Specific gravity = 1.180 (2 0℃ / 68℉)
Bulk density not applicable
Solubility in water Partly miscible with water at 20℃ / 68℉
Solubility in other solvents Miscible with phthalates at 20℃ / 68℉
pH value slightly acidic
Partition coefficient n-octanol/water not determined
Relative vapour density (air=1) not determined
Viscosity 24 mPa.s at 20℃ / 68℉

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Active oxygen content 8,8 - 9,0 %
Peroxide content 30-37 %
Autoignition temperature Test method not applicable (See Section 7)
SADT 60 ℃. See also Section 10.
Explosion limits not determined
Volatile % 5 %

10. STABILITY AND REACTIVITY

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: 25 ℃.
	Avoid shock and friction. 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, PVC, polyethylene or glass-lined equipment.	
Polymerization Polymerization does not occur.	
Decomposition Hazardous decomposition products; Water, 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

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Eye Corrosive
Sensitization Not sensitizing
Genotoxicity Ames test: Not mutagenic

Dimethyl phthalate
Acute toxicity
Oral LD50 rat: >2400 mg/kg
Dermal LD50 rabbit: >10.000 mg/kg
Inhalation LC50 9300 mg/m³ (6.5 hours)
Irritation
Skin Mildly irritating
Eye Minimally irritating

Methyl ethyl ketone
Acute toxicity
Oral LD50 rat: 2737 mg/kg
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).
Dimethyl phthalate

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Ecotoxicity
fish Lepomis macrochirus: 96h-LC50: 420 ppm
algae Selenastrum capricornutum: 39.8 mg/l (96h-IC50)
Fate
Degradation Biotic Readily biodegradable.
Other information Bio Concentration Factor (BCF) fish 5.4 (24 hours)

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.
Waste code number Waste should be regarded as special waste for disposal. Please refer to your specific industry in the European Waste Catalogue.

14. TRANSPORT INFORMATION

Land transport
Class 5.2
Classification Code P1
RID class 5.2
Substance Identification No. 3105
TREM-Card or ERG Number CEFIC TEC(R)- 52GP1-L
UN number 3105

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Proper Shipping Name ORGANIC PEROXIDE TYPE D, LIQUID (Methyl ethyl ketone peroxide)
Required labels 5.2

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

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

15. REGULATORY INFORMATION

Product label name Methyl ethyl ketone peroxide, solution in dimethyl phthalate
Labelling according to EC directives
EC-number not applicable

R(isk) phrase(s)	
Code	**Description**
R07.	May cause fire.
R22.	Harmful if swallowed.

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R34.	Causes burns.

S(afety) phrase(s)	
Code	**Description**
S03/07.	Keep container tightly closed in a cool place.
S14B.	Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).
S36/37/39.	Wear suitable protective clothing, gloves and eye/face protection.
S45.	In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S50D.	Do not mix with peroxide-accelerators or reducing agents.

Symbol(s)	
	
CORROSIVE	OXIDIZING

Other information Substance and/or product listed in Directive 96/82/EC.
German Water Hazard Class (WGK) 1 (VwVwS Anhang 4 Nr. 3)

16. OTHER INFORMATION

R-phrase information		
Chemical name	R(isk) phrase(s)	
Methyl ethyl ketone peroxide	R02 R07 R22 R34	Risk of explosion by shock, friction, fire or other sources of ignition May cause fire Harmful if swallowed Causes burns
Dimethyl phthalate	none	none
Methyl ethyl ketone	R11 R36 R66 R67	Highly flammable Irritating to eyes Repeated exposure may cause skin dryness or cracking Vapours may cause drowsiness and dizziness
Water	none	none

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4.02

Composed by
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Changes were made in section
3 US - Emergency overview