

**SAFETY DATA SHEET**

According to EC-directive 2001/58/EC

**BUTANOX M-50**

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

<b>Product label name</b> Methyl ethyl ketone peroxide, solution in dimethyl phthalate	
<b>Supplier</b> Akzo Nobel Polymer Chemicals bv Stationsplein 4 PO Box 247 NL-3800 AE Amersfoort The Netherlands Tel.: +31-33 4676767  www.akzonobel-polymerchemicals.com	
<b>Emergency telephone</b> + 31 570679211 (Fax. + 31 570679801) Akzo Nobel Chemicals-Deventer-NL	
<b>Intended use</b> Curing agent.	
<b>Date of first issue</b> 1995/10/02	<b>Date of last issue / Revision #</b> 2005/10/20 / 3.40

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a preparation in conformance to EC directives.			
Information on hazardous ingredients			
<b>Chemical description</b> Methyl ethyl ketone peroxide, solution in dimethyl phthalate			
<b>Composition / information on ingredients</b>			
Number	% w/w	CAS-number	Chemical name
1	30.00 - 37.00	001338-23-4	Methyl ethyl ketone peroxide
2	55.00 - 70.00	000131-11-3	Dimethyl phthalate
3	5.00	000078-93-3	Methyl ethyl ketone

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

<b>Other information</b> Balance: non-hazardous ingredients.
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## 3. HAZARDS IDENTIFICATION

May cause fire. Harmful if swallowed. Causes burns.
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## 4. FIRST AID MEASURES

<b>Symptoms and effects</b> Harmful if swallowed. Causes burns. Causes injury to the cornea and eyelids. Risk of serious damage to eyes.
<b>First aid</b>
<b>General</b> Call a physician immediately.



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**Inhalation**

Move to fresh air, rest, half upright position, loosen clothing. Oxygen or artificial respiration if there is difficulty in breathing. Remove contaminated clothing. Always seek medical attention.

**Skin**

Remove all contaminated clothing immediately. Wash off with plenty of soap and water. Always seek medical advice. Launder clothes before reuse.

**Eye**

Rinse immediately and as long as possible with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinsing. Always seek medical advice.

**Ingestion**

Rinse mouth with water. Do NOT induce vomiting. Call a physician immediately !

**Advice to physician**

Symptomatic treatment is advised.

#### 5. FIRE-FIGHTING MEASURES

**Extinguishing media**

Carbon dioxide, dry chemical powder, dry sand, water, foam.

**Unsuitable extinguishing media**

halones.

**Hazardous decomposition/  
combustion products**

Carbon dioxide, Water, Acetic acid, Formic acid, Propanoic acid, Methyl ethyl ketone

**Protective equipment**

Wear suitable protective clothing. Wear self contained breathing apparatus.

**Other information**

Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition. Cool closed containers with water.

**Fire and explosion hazard**

CAUTION: reignition may occur. Decomposition under effect of heating. If involved in a fire, it will support combustion. 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.

**Environmental precautions**

Do not allow to enter drains or water courses.

**Methods for cleaning up**

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.

**Other information**

CAUTION: reignition may occur.

#### 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. 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 shock and friction. Avoid contact with skin and eyes.

**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. Keep only in the original container. Keep container upright to prevent leakage.

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<b>Storage</b>
For maximum quality store below: 25 °C.
<b>Other information</b> 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**

<b>Engineering controls</b> Ensure good ventilation and local exhaustion of the working area. Explosion proof ventilation recommended.
<b>Personal protection</b>
<b>Respiratory</b> In case of insufficient ventilation wear suitable respiratory equipment (respirator with Filter A).
<b>Hand</b> Wear suitable protective gloves of neoprene or synthetic rubber.
<b>Eye</b> Wear eye/face protection.
<b>Skin and body</b> Wear suitable protective clothing.
<b>Other information</b> Launder clothes before reuse.

<b>Methyl ethyl ketone peroxide</b>	
Agency OES-STEL	1.500 mg/m <sup>3</sup>
<b>Dimethyl phthalate</b>	
Agency OES-STEL	5.000 ppm
<b>Methyl ethyl ketone</b>	
Agency OES-STEL	300.000 mg/m <sup>3</sup>
OES-STEL = , OES-TWA = MEL-STEL=	

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance and Odour</b> liquid clear and colourless odour: faint
<b>Boiling point/range</b> Do not distill ( Decomposes )
<b>Melting point/range</b> turbid < -10 °C
<b>Flash point</b> Above the SADT value
<b>Flammability</b> not determined
<b>Explosive properties</b> no
<b>Oxidizing properties</b> not applicable

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<b>Vapour pressure</b> not determined
<b>Density</b> 1180 kg/m <sup>3</sup> (20 °C )
<b>Bulk density</b> not applicable
<b>Solubility in water</b> Partly miscible with water.
<b>Solubility in other solvents</b> phthalates
<b>pH value</b> weak acid
<b>Partition coefficient n-octanol/water</b> not determined
<b>Relative vapour density (air=1)</b> not determined
<b>Viscosity</b> approx. 20 mPa.s (20 °C )
<b>Active oxygen content</b> 8.8-9.0 %
<b>Peroxide content</b> 33 %
<b>Autoignition temperature</b> Test method not applicable. (See Section 7)
<b>SADT</b> 60 °C. See also Section 10.
<b>Explosion limits</b> not applicable
<b>Specific conductivity</b> not determined

**10. STABILITY AND REACTIVITY**

<b>Stability</b>	
	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 °C. Contact with incompatible substances can cause decomposition at or below the SADT 60 °C.
<b>Conditions to avoid</b>	
	To maintain quality store in original closed container below: 25 °C.
	Avoid shock and friction. Confinement must be avoided.
<b>Incompatibilities</b>	
Avoid contact with rust, iron and copper. Contact with incompatible materials such as acids, alkalis, 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.	
<b>Decomposition</b>	
Acetic acid, Formic acid, Propanoic acid, Methyl ethyl ketone	
<b>Other information</b>	
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.	

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### 11. TOXICOLOGICAL INFORMATION

<b>Methyl ethyl ketone peroxide, 40 % in Dimethyl phthalate</b>	
<b>Acute toxicity</b>	
<b>Oral LD50</b>	rat:1017 mg/kg
<b>Dermal LD50</b>	rat:4000 mg/kg
<b>Inhalation LC50</b>	rat:17 mg/l ; 4 hours exposure time
<b>Irritation</b>	
<b>Skin</b>	Corrosive
<b>Eye</b>	Corrosive
<b>Sensitization</b>	Not sensitizing
<b>Genotoxicity</b>	Ames test: Not mutagenic
<b>Dimethyl phthalate</b>	
<b>Acute toxicity</b>	
<b>Oral LD50</b>	rat: >2400 mg/kg
<b>Dermal LD50</b>	rabbit: >10.000 mg/kg
<b>Inhalation LC50</b>	9300 mg/m <sup>3</sup> (6.5 hours )
<b>Irritation</b>	
<b>Skin</b>	Mildly irritating
<b>Eye</b>	Minimally irritating
<b>Methyl ethyl ketone</b>	
<b>Acute toxicity</b>	
<b>Oral LD50</b>	rat: 2737 mg/kg
<b>Dermal LD50</b>	rabbit 6480 mg/kg
<b>Inhalation LC50</b>	rat 23.5000 mg/m <sup>3</sup>
<b>Irritation</b>	
<b>Skin</b>	Moderately irritating
<b>Eye</b>	Moderately irritating

### 12. ECOLOGICAL INFORMATION

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<b>Methyl ethyl ketone peroxide, 40 % in Dimethyl phthalate</b>	
<b>Ecotoxicity</b>	
<b>fish</b>	Acute toxicity, 96h-LC50 = 44.2 mg/l. ( Poecilia reticulata.)
<b>bacteria</b>	Activated sludge respiration inhibition test EC50 = 48.0 mg/l.
<b>Fate</b>	
<b>Degradation Biotic</b>	Readily biodegradable ( Closed bottle test ).
<b>Dimethyl phthalate</b>	
<b>Ecotoxicity</b>	
<b>fish</b>	Lepomis macrochirus: 96h-LC50: 420 ppm
<b>algae</b>	Selenastrum capricornutum: 39.8 mg/l ( 96h-IC50 )
<b>Fate</b>	
<b>Degradation Biotic</b>	Readily biodegradable.
<b>Other information</b>	Bio Concentration Factor (BCF) fish 5.4 (24 hours )
<b>Methyl ethyl ketone</b>	
<b>Ecotoxicity</b>	
<b>fish</b>	Lepomis macrochirus: 96h-LC50: 3.22 g/l
<b>Fate</b>	
<b>Degradation Biotic</b>	Readily biodegradable.
<b>Other information</b>	Naturally occurring substance

**13. DISPOSAL CONSIDERATIONS**

<b>Product</b>	Waste disposal in accordance with regulations (most probably controlled incineration).
<b>Contaminated packaging</b>	According to local regulations.
<b>Other information</b>	For further advice contact manufacturer.

**14. TRANSPORT INFORMATION**

<i>Land transport (ADR/ RID) and / or DOT</i>	
<b>Class</b>	5.2
<b>Classification Code</b>	P1
<b>RID class</b>	5.2

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<b>Substance Identification No.</b> 3105
<b>TREM-Card or ERG Number</b> CEFIC TEC(R)- 52GP1-L
<b>UN number</b> 3105
<b>Proper Shipping Name</b> Organic peroxide type d, liquid; ( Methyl ethyl ketone peroxide.)
<b>Required labels</b> 5.2

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

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

**15. REGULATORY INFORMATION**

<b>Chemical description</b> Methyl ethyl ketone peroxide, solution in dimethyl phthalate
<b>Labelling according to EC directives</b>
<b>EC-number</b> not applicable

<b>R(isk) phrase(s)</b>	
<b>Code</b>	<b>Description</b>
R07.	May cause fire.



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R22.	Harmful if swallowed.
R34.	Causes burns.

<b>S(safety) phrase(s)</b>	
<b>Code</b>	<b>Description</b>
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.

<b>Symbol(s)</b>	
	
CORROSIVE	OXIDIZING

<b>Other information</b> Substance and/or product listed in Directive 96/82/EC.
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## 16. OTHER INFORMATION

<b>R-phrase information</b>		
<b>Chemical name</b>	<b>R(isk) phrase(s)</b>	
Methyl ethyl ketone peroxide	R02 R22 R34 R07	Risk of explosion by shock, friction, fire or other sources of ignition Harmful if swallowed Causes burns May cause fire
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

<b>History</b>
<b>Date of printing/ pdf file generated</b> 2005/10/28





## **BUTANOX M-50**

**Revision**

3.40

**Composed by**

J.W. Wessels - Regulatory Affairs - Europe.

J.M.G.M. Reijnders.

**Changes were made in section**

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