



## SAFETY DATA SHEET

According to EC-directive 93/112/EC

### BUTANOX M-50

Explosive properties	no
Explosion limits	not applicable
Oxidizing properties	not applicable
Vapour pressure	not determined
Density	1180 kg/m <sup>3</sup> (20 °C )
Bulk density	not applicable
Solubility in water	Partly miscible with water.
Solubility in other solvents	phthalates
pH value	weak acid
Partition coefficient n-octanol/water	not determined
Relative vapour density (air=1)	not determined
Viscosity	approx. 20 mPa.s (20 °C )
Active oxygen content	8.8-9.0 %
Peroxide content	33 %
SADT	60 °C. See also Section 10: Other information.
Specific conductivity	not determined

## 10. STABILITY AND REACTIVITY

Stability	A dangerous self-accelerating decomposition reaction and, under certain circumstances, explosion or fire can be caused by direct contact with incompatible substances or by thermal decomposition at and above the following temperature: +60 °C.
Conditions to avoid	Violent reactions may be expected with acid, alkali, heavy metals and reducing agents. Avoid contact with rust. Confinement must be avoided. Do not mix with peroxide accelerators. Do not mix with reducing agents.
Materials to avoid	Use only Stainless steel 316, PVC, polyethylene or glass-lined equipment.
Hazardous decomposition products	Acetic acid, Formic acid, Propanoic acid, Methyl ethyl ketone
Other information	The SADT (self accelerating decomposition temperature) is an experimentally derived temperature at which the product in a typical package will undergo self accelerating decomposition.

## 11. TOXICOLOGICAL INFORMATION

Name	Methyl ethyl ketone peroxide 33%.
Acute toxicity	
Oral LD50	rat:1017 mg/kg ( Methyl ethyl ketone peroxide 40%)
Dermal LD50	rat:4000 mg/kg ( Methyl ethyl ketone peroxide 40%)
Inhalation LC50	rat:17 mg/l ; 4 hours exposure time ( Methyl ethyl ketone peroxide 40%)
Irritation	
Skin	Corrosive ( Methyl ethyl ketone peroxide 33%)
Eye	Severely irritating / Corrosive ( Methyl ethyl ketone peroxide 33%)
Genotoxicity	Ames test: Not mutagenic
Name	Dimethyl phthalate
Acute toxicity	
Oral LD50	rat: >2400 mg/kg
Dermal LD50	rabbit: >10.000 mg/kg
Inhalation LC50	9300 mg/m <sup>3</sup> (6.5 hours )
Irritation	
Skin	Moderately irritating
Eye	Minimally irritating
Name	Methyl ethyl ketone.



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Protective equipment	Wear suitable protective clothing. Wear self contained breathing apparatus.
Other information	Cool closed containers with water.

#### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin and eyes. For personal protection see Section 8.
Environmental precautions	Collect as much as possible in a clean container for (preferable) reuse or disposal. Do not empty into drains.
Methods for cleaning up	The waste should NOT be confined. Absorb the remainder with e.g. vermiculite.
Other information	For personal protection see Section 8.

#### 7. HANDLING AND STORAGE

Handling	Never weigh out in the storage room. Keep product and emptied container away from heat and sources of ignition. No sparking tools should be used. Avoid shock and friction. Confinement must be avoided. Do not pipet by mouth. Do not inhale. Never bring peroxide into direct contact with accelerator during processing. Weigh out and add peroxide and accelerator separately.
Fire and explosion prevention	Use explosion protected equipment. Keep away from sources of ignition - No smoking.
Storage requirements	Keep away from reducing agents (e.g. amines), acids, alkalis and heavy metal compounds (e.g. accelerators, driers, metal soaps). Store in accordance with local/national regulations. Store in a dry well ventilated place away from sources of heat and direct sunlight. Do not mix with peroxide accelerators. Do not mix with reducing agents. Keep container tightly closed in a cool, well-ventilated place. Keep container upright to prevent leakage. Confinement must be avoided.
Other information	When using do not eat, drink or smoke. Wash thoroughly after handling. 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.
Exposure limits	
Name	
Methyl ethyl ketone peroxide	OES-STEL 1.5 mg/m <sup>3</sup>
Methyl ethyl ketone	OES-TWA 600.0 mg/m <sup>3</sup> Can be absorbed through skin
	OES-STEL 899.0 mg/m <sup>3</sup> Can be absorbed through skin
Personal protection	
Respiratory	Do not breathe vapour. Ensure good ventilation and local exhaustion of the working area.
Hand	Wear suitable protective gloves of neoprene or synthetic rubber.
Eye	Wear eye/face protection. A face shield is preferred over goggles.
Skin and body	Wear suitable protective clothing and gloves. Take off contaminated clothing immediately.
Other information	Launder clothes before reuse.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	liquid
Colour	clear and colourless
Odour	faint
Boiling point/range	Do not distill ( Decomposes )
Melting point/range	turbid < -10 °C
Flash point	52 °C ( Setflash ISO 3679)
Flammability	not determined
Autoignition temperature	218 °C ( DIN 51794)



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### BUTANOX M-50

ALEC TIRANTI LIMITED  
Sculptors' Tools, Equipment, Materials  
70 High Street, Theale, Reading, Berks  
London Shop: 27 Warren Street, W.1

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

Product label name Methyl ethyl ketone peroxide, 33% in dimethyl phthalate  
Supplier Akzo Nobel Polymer Chemicals bv  
Stationsplein 4  
PO Box 247  
NL-3800 AE Amersfoort  
Tel.: +31-334676767  
Emergency telephone + 31 570679211 (Fax: + 31 570679801)  
Akzo Nobel Polymer Chemicals bv -Deventer-NL + 44-1634280888  
Akzo Nobel Chemicals-Gillingham-GB

#### 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, 33% in dimethyl phthalate

##### Composition / information on ingredients

Number	% w/w	CAS-number	Chemical name	Symbol(s)	Risk-phrase(s)
1	33.0	1338-23-4	Methyl ethyl ketone peroxide	C E	R2 R22 R34 R7
2	63.0	131-11-3	Dimethyl phthalate	none	none
3	1.0	78-93-3	Methyl ethyl ketone	F Xi	R11 R36/37
Number	EC-number	Annex-1 number	Symbol(s)		
1	215-661-2		C E		
2	205-011-6		none		
3	201-159-0	606-002-00-3	F Xi		

Other information Balance: non-hazardous ingredients.

#### 3. HAZARDS IDENTIFICATION

May cause fire.  
Harmful if swallowed.  
Causes burns.

#### 4. FIRST AID MEASURES

##### Symptoms and effects

Harmful if swallowed. Causes burns. Risk of serious damage to eyes.

##### First aid

###### General

Call a physician immediately.

###### Inhalation

Move to fresh air, rest, half upright position, loosen clothing. Oxygen or artificial respiration if there is difficulty in breathing. Seek medical advice after significant exposure.

###### 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

Only when conscious, rinse mouth, give plenty of water to drink (approx. 500 ml). DO NOT induce vomiting. Seek medical advice.

##### Advice to physician

No additional information available.

#### 5. FIRE-FIGHTING MEASURES

##### Extinguishing media

waterspray, foam, fire-extinguishing powder, carbon dioxide. Extinguish a small fire with powder or carbon dioxide then apply water to prevent re-ignition.

##### Unsuitable extinguishing media

halones.

##### Special exposure hazards

If involved in a fire, it will support combustion. In case of fire and/or explosion do not breathe fumes.

##### Hazardous decomposition/combustion products

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

**SAFETY DATA SHEET**

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**BUTANOX M-50****Acute toxicity**

Oral LD50	rat: 2737 mg/kg
Dermal LD50	rabbit 6480 mg/kg
Inhalation LC50	rat 23.5000 mg/m <sup>3</sup>

**Irritation**

Skin	Moderately irritating
Eye	Moderately irritating

**12. ECOLOGICAL INFORMATION**

Name Based on: Methyl ethyl ketone peroxide 33%

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 ).

Name Based on: Dimethyl phthalate

Ecotoxicity	
algae	Selenastrum capricornutum: 39.8 mg/l ( 96h-IC50 )
Fate	
Other information	Bio Concentration Factor (BCF) fish 5.4 (24 hours )

Name Based on: Methyl ethyl ketone

Ecotoxicity	
fish	Lepomis macrochirus: 96h-LC50: 3.22 g/l
Fate	
Degradation Biotic	Readily biodegradable.
Other information	Naturally occurring substance

**13. DISPOSAL CONSIDERATIONS**

Product	Probably in controlled incineration but according to local regulations. The waste should NOT be confined. Absorb the remainder with e.g. vermiculite.
Contaminated packaging	Collect for recycling or most probably controlled incineration.
Other information	Dilute before burning with organic solvents. Controlled incineration according to local regulations is always preferred. If not possible burn in small portions on a remote place, using a torch with a long rod to ignite the material.

**14. TRANSPORT INFORMATION***Land transport (ADR/ RID)*

ADR class	5.2	ADR item number	5b
RID class	5.2	RID item number	5b
TREM-Card	CEPIC TEC(R)- 52G01B	UN number	3105
Proper shipping name	Organic peroxide type d, liquid; ( Methyl ethyl ketone peroxide.)		

*Sea transport (IMDG-code/ IMO)*

IMO/IMDG code	page 5225a	Class	5.2
Packing group	II	UN number	3105
EMS	5.2-01	MFAG	735
Marine pollutant	no		
Proper shipping name	Organic peroxide type d, liquid; ( Methyl ethyl ketone peroxide.)		

*Air transport (ICAO-TI/ IATA-DGR)*

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.)		