

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

## BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

Trade name : BUTANOX M-50

REACH Registration Number :

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture : Specific use(s): Curing agent

#### 1.3 Details of the supplier of the safety data sheet

Company : Nouryon Functional Chemicals B.V.  
Velperweg 76  
NL 6824 BM Arnhem  
Netherlands

Telephone : +31263664433

Telefax :

E-mail address : RegulatoryAffairs@nouryon.com

#### 1.4 Emergency telephone number

Emergency telephone number : 24 hours:+31 57 06 79211, US-CHEMTREC:1-800-424-9300,  
CA-CANUTEC:1-613-996-6666, JP: +81 (3) 3234 0801, CN:  
化学事故应急咨询电话 : +86 532 8388 9090

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Organic peroxides, D, H242  
Acute toxicity, 4, H302  
Acute toxicity, 4, H332  
Skin corrosion, 1B, H314  
Serious eye damage, 1, H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

## 2.2 Label elements

### Labelling (REGULATION (EC) No 1272/2008)

Pictogram



Signal word

: Danger

Hazard statements

: H242  
H302 + H332  
H314

Heating may cause a fire.  
Harmful if swallowed or if inhaled.  
Causes severe skin burns and eye damage.

Precautionary statements

: **Prevention:**

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P234

Keep only in original packaging.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

**Response:**

P303 + P361 + P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P305 + P351 + P338 + P310

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

P370 + P378

In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

### Hazardous components which must be listed on the label:

Methyl ethyl ketone peroxide; Reaction mass of butane- 1338-23-4  
2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane

## 2.3 Other hazards

No further data available.

PBT and vPvB assessment

: This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixtures

Pure substance/mixture : Mixture

#### Hazardous substance

Chemical name	PBT vPvB OEL	CAS-No. EC-No. REACH No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [%]
Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane		1338-23-4 700-954-4 01-2119514691-43	Org. Perox. A; H240 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318	30 - 37
Methyl ethyl ketone		78-93-3 201-159-0	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	1 - 5

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Status : Not applicable

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

- General advice : Immediate medical attention is required.  
Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.
- If inhaled : If breathed in, move person into fresh air.  
Consult a physician after significant exposure.
- In case of skin contact : Take off contaminated clothing and shoes immediately.  
Rinse immediately with plenty of water.  
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
- In case of eye contact : Rinse with plenty of water.  
Get medical attention immediately. Continue to rinse during transport.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

If swallowed : Clean mouth with water and drink afterwards plenty of water.  
Never give anything by mouth to an unconscious person.  
Take victim immediately to hospital.  
Do not induce vomiting! May cause chemical burns in mouth and throat.

## 4.2 Most important symptoms and effects, both acute and delayed

Symptoms : The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Risks : Harmful if swallowed or if inhaled.  
Causes serious eye damage.  
Causes severe burns.

## 4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

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## SECTION 5: FIREFIGHTING MEASURES

### 5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting / Specific hazards arising from the chemical : CAUTION: reignition may occur.  
Supports combustion.  
Water spray may be ineffective unless used by experienced firefighters.  
Do not allow run-off from fire fighting to enter drains or water courses.  
Hazardous decomposition products formed under fire conditions.

Combustion products : Fire will produce smoke containing hazardous combustion products (see section 10).

### 5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Further information : Use water spray to cool unopened containers.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Wear respiratory protection.

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

Ensure adequate ventilation.  
Remove all sources of ignition.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Emergency measures on accidental release : Evacuate personnel to safe areas.  
Only qualified personnel equipped with suitable protective equipment may intervene.  
Prevent unauthorised persons entering the zone.

## 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
If the product contaminates rivers and lakes or drains inform respective authorities.

## 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up / Methods for containment : Soak up with inert absorbent material and dispose of as hazardous waste.  
Keep wetted with water.  
Confinement must be avoided.  
Never return spills in original containers for re-use.

## 6.4 Reference to other sections

For disposal considerations see section 13.  
For personal protection see section 8.

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## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Advice on safe handling : For personal protection see section 8.  
Avoid formation of aerosol.  
Do not breathe vapours or spray mist.  
Smoking, eating and drinking should be prohibited in the application area.  
Provide sufficient air exchange and/or exhaust in work rooms.  
Open drum carefully as content may be under pressure.  
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion : Use explosion protected equipment.  
Keep away from sources of ignition - No smoking.  
No sparking tools should be used.  
Keep away from reducing agents (e.g. amines), acids, alkalies and heavy metal compounds (e.g. accelerators, driers, metal soaps).  
Do not cut or weld on or near this container even when empty.  
Keep away from combustible material.

Temperature class : It is recommended to use electrical equipment of temperature group T3. However, autoignition can never be excluded.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No smoking.  
Keep in a well-ventilated place.

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

Electrical installations / working materials must comply with the technological safety standards.  
Keep only in original container.  
Store away from other materials.

Maximum storage temperature: : 25 °C  
Other data : Maximum storage temperature is for quality only.

## 7.3 Specific end use(s)

Specific use(s) : Consult the technical guidelines for the use of this substance/mixture.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Dimethyl phthalate	131-11-3	TLV 8 hr	5 mg/m <sup>3</sup>	2006-03-23	BE OEL	
Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane	1338-23-4	TLV 8 hr	0,2 ppm 1,5 mg/m <sup>3</sup>	2018-10-03	BE OEL	
	Further information	:	M: At an exposure above the limit value, irritation occurs or a danger exists for acute intoxication. The working method should therefore be designed in a way that the exposure never exceeds this limit value. At a control, the sampling period must be as short as possible to be able to perform a reliable measurement. The results of the measurement will be related to the period of time in which the sampling took place			
Methyl ethyl ketone	78-93-3	TWA	200 ppm 600 mg/m <sup>3</sup>	2000-06-16	2000/39/EC	
	Further information	:	Indicative			
		STEL	300 ppm 900 mg/m <sup>3</sup>	2000-06-16	2000/39/EC	
	Further information	:	Indicative			
		TLV 8 hr	200 ppm 600 mg/m <sup>3</sup>	2006-03-23	BE OEL	
		TLV 15 min	300 ppm 900 mg/m <sup>3</sup>	2006-03-23	BE OEL	

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

ACGIH: American Conference of Governmental Industrial Hygienists  
 AGW: Arbeitsplatzgrenzwert  
 BEI: Biological Exposure Index  
 MAC: Maximum Allowable Concentration  
 NIOSH: National Institute for Occupational Safety and Health  
 OEL: OEL: Occupational exposure limit.  
 STEL: Short term exposure limit  
 TRGS: Technische Regel für Gefahrstoffe  
 TWA: Time Weighted Average

## Occupational exposure limits of decomposition products

Decomposition products	CAS-No.	Value	Control parameters	Update	Basis	Form of exposure
Formic acid	64-18-6, 64-18-6	TWA	5 ppm 9 mg/m <sup>3</sup>	2006-02-09	2006/15/EC	
	Further information	:	Indicative			
		TLV 8 hr	5 ppm 9,5 mg/m <sup>3</sup>	2006-03-23	BE OEL	
		TLV 15 min	10 ppm 19 mg/m <sup>3</sup>	2006-03-23	BE OEL	
Acetic acid	64-19-7, 64-19-7	TLV 8 hr	10 ppm 25 mg/m <sup>3</sup>	2006-03-23	BE OEL	
		TLV 15 min	15 ppm 38 mg/m <sup>3</sup>	2006-03-23	BE OEL	
		TWA	10 ppm 25 mg/m <sup>3</sup>	2017-02-01	2017/164/EU	
	Further information	:	Indicative			
		STEL	20 ppm 50 mg/m <sup>3</sup>	2017-02-01	2017/164/EU	
	Further information	:	Indicative			
Propionic acid	79-09-4, 79-09-4	TWA	10 ppm 31 mg/m <sup>3</sup>	2000-06-16	2000/39/EC	
	Further information	:	Indicative			
		STEL	20 ppm 62 mg/m <sup>3</sup>	2000-06-16	2000/39/EC	
	Further information	:	Indicative			
		TLV 8 hr	10 ppm 31 mg/m <sup>3</sup>	2006-03-23	BE OEL	
		TLV 15 min	20 ppm 62 mg/m <sup>3</sup>	2006-03-23	BE OEL	
Methyl ethyl ketone	78-93-3, 78-93-3	TWA	200 ppm 600 mg/m <sup>3</sup>	2000-06-16	2000/39/EC	
	Further information	:	Indicative			
		STEL	300 ppm 900 mg/m <sup>3</sup>	2000-06-16	2000/39/EC	
	Further information	:	Indicative			
		TLV 8 hr	200 ppm 600 mg/m <sup>3</sup>	2006-03-23	BE OEL	
		TLV 15 min	300 ppm 900 mg/m <sup>3</sup>	2006-03-23	BE OEL	

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

## Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane	Consumers	Skin contact	Long-term systemic effects	0,54 mg/kg
	Consumers	Inhalation	Long-term systemic effects	0,41 mg/m <sup>3</sup>
	Consumers	Ingestion	Long-term systemic effects	0,27 mg/kg
	Workers	Skin contact	Long-term systemic effects	1,08 mg/kg
	Workers	Inhalation	Long-term systemic effects	1,9 mg/m <sup>3</sup>
Methyl ethyl ketone	Workers	Inhalation	Long-term systemic effects	600 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	1161 mg/kg
	Consumers	Inhalation	Long-term systemic effects	106 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	412 mg/kg
	Consumers	Ingestion	Long-term systemic effects	31 mg/kg

## Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006

Substance name	Environmental Compartment	Value
Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane	Fresh water	0,0056 mg/l
	Intermittent water	0,056 mg/l
	Marine water	0,00056 mg/l
	Fresh water sediment	0,019 mg/kg dry weight
	Marine sediment	0,0019 mg/kg dry weight
	Sewage treatment plant	1,2 mg/l
	Soil	0,00231 mg/kg dry weight
	Methyl ethyl ketone	Fresh water
Marine water		55,8 mg/l
Intermittent water		55,8 mg/l
Sewage treatment plant		709 mg/l
Fresh water sediment		284,74 mg/kg dry weight
Marine sediment		284,74 mg/kg dry weight
Soil		22,5 mg/kg dry weight
Oral		1000 mg/kg food

## 8.2 Exposure controls

### Engineering controls

Explosion proof ventilation recommended.



# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

Effective exhaust ventilation system

Ensure that eyewash stations and safety showers are close to the workstation location.

## Personal protective equipment

Respiratory protection : In the case of vapour or aerosol formation use a respirator with an approved filter.  
Filter A

Hand protection : Neoprene

Nitrile rubber

Breakthrough time is not determined for the product. Change gloves often!

butyl-rubber

Break through time:  $\geq 480$  min

Glove thickness: 0,5 mm

The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.

Eye protection : Tightly fitting safety goggles  
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Protective suit

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

## Environmental exposure controls

General advice : Prevent product from entering drains.  
If the product contaminates rivers and lakes or drains inform respective authorities.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

#### Appearance

Form : liquid

Colour : clear  
colourless

Odour : Faint.

Odour Threshold : No data available

#### Safety data

pH : Weakly acidic

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

Melting point	: No data available
Boiling point/boiling range	: Decomposes below the boiling point.
Flash point	: Above the SADT value No flash point was obtained, but the product may release flammable vapour.
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Flammability (liquids)	: Decomposition products may be flammable.
Lower explosion limit	: No data available
Upper explosion limit	: No data available
Vapour pressure	: 1 hPa at 84 °C
Relative vapour density	: No data available
Relative density	: 1,180 at 20 °C
Bulk density	: Not applicable
Water solubility	: at 20 °C partly miscible
Solubility in other solvents	: 20 °C Miscible with:, Phthalates
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: Test method not applicable
Decomposition temperature	: 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 SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-Accelerating decomposition temperature (SADT)	: 60 °C
Viscosity, dynamic	: 24 mPa.s at 20 °C
Viscosity, kinematic	: 20,34 mm <sup>2</sup> /s at 20 °C
Explosive properties	: Not explosive

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

Oxidizing properties : Not classified as oxidising.

## 9.2 Other information

Active Oxygen Content : 8,8 - 9,0 %

Organic peroxides : 30 - 37 %

This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

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## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under normal conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Conditions to avoid : Confinement must be avoided.  
Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid : Contact with the following incompatible materials will result in hazardous decomposition:  
Acids and bases  
Iron  
Copper  
Reducing agents  
Heavy metals  
Rust  
Do not mix with peroxide accelerators, unless under controlled processing.  
Use only stainless steel 316, PP, polyethylene or glass-lined equipment.  
For queries regarding the suitability of other materials please contact the supplier.

### 10.6 Hazardous decomposition products

Hazardous decomposition products : Carbon oxides  
Formic acid  
Acetic acid  
Propionic acid  
Methyl ethyl ketone

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

Thermal decomposition	: 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 SADT. Contact with incompatible substances can cause decomposition below the SADT.
Self-Accelerating decomposition temperature (SADT)	: 60 °C

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## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Product information:

Acute toxicity	: Harmful if swallowed or if inhaled.
Skin corrosion/irritation	: Causes severe burns.
Serious eye damage/eye irritation	: Causes serious eye damage.
Respiratory or skin sensitisation	: Respiratory sensitisation: Not classified based on available information. Skin sensitisation: Not classified based on available information.
Germ cell mutagenicity	: Not classified based on available information.
Carcinogenicity	: Not classified based on available information.
Reproductive toxicity	: Not classified based on available information.
STOT - single exposure	: Not classified based on available information.
STOT - repeated exposure	: Not classified based on available information.
Aspiration hazard	: Not classified based on available information.
Further information	: No further data available.

#### Test result

Acute oral toxicity	: LD50 Oral: 1 017 mg/kg Species: rats Method: OECD Test Guideline 401
Acute inhalation toxicity	: LC50 (Rat): 1,5 mg/l Exposure time: 4 h Test atmosphere: dust/mist
Acute dermal toxicity	: LD50: 4 000 mg/kg Species: Rabbit Method: OECD Test Guideline 402
Skin corrosion/irritation	: Species: Rabbit

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

Result: Sub-category 1B  
Classification: Category 1B  
Method: Tested according to Annex V of Directive 67/548/EEC.

Serious eye damage/eye irritation : Species: Rabbit  
Result: Risk of serious damage to eyes.  
Classification: Risk of serious damage to eyes.  
Method: Tested according to Annex V of Directive 67/548/EEC.

## Toxicology data for the components:

### Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane

#### Acute toxicity:

Acute oral toxicity : LD50: 1 017 mg/kg  
Species: Rat

Acute inhalation toxicity : LC50 (Rat): 1,5 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist

Acute dermal toxicity : LD50: 4 000 mg/kg  
Species: Rat

Skin corrosion/irritation : Result: Causes burns.

Serious eye damage/eye irritation : Result: Risk of serious damage to eyes.

Germ cell mutagenicity

Genotoxicity in vitro : Ames test  
Result: negative

Genotoxicity in vivo : Not classified due to data which are conclusive although insufficient for classification.

Carcinogenicity : No data available

Reproductive toxicity/Fertility : Species: Rat, male and female  
Application Route: Oral  
Dose: 0 25, 50, 75 milligram per kilogram  
General Toxicity - Parent: No observed adverse effect level: 50 mg/kg bw/day  
General Toxicity F1: No observed adverse effect level F1: 50 mg/kg bw/day  
Fertility: No observed adverse effect level Parent: 75 mg/kg bw/day  
Method: OECD Test Guideline 421  
GLP: yes

STOT - repeated exposure : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

Aspiration hazard : No aspiration toxicity classification

## Methyl ethyl ketone

### Acute toxicity:

Acute oral toxicity : LD50: 2 737 mg/kg  
Species: Rat

Acute dermal toxicity : LD50: 6 480 mg/kg  
Species: Rabbit

Skin corrosion/irritation : Result: Repeated exposure may cause skin dryness or cracking.  
Moderately irritating.

Serious eye damage/eye irritation : Result: Irritating to eyes.

STOT - single exposure : Exposure routes: Inhalation  
The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

Aspiration hazard : No aspiration toxicity classification

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## SECTION 12: ECOLOGICAL INFORMATION

### Product information:

#### Ecotoxicology Assessment

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life.

### 12.1 Toxicity

#### Test result

Toxicity to fish : LC50: 44,2 mg/l  
Exposure time: 96 h  
Species: *Poecilia reticulata* (guppy)  
Test Type: semi-static test

Toxicity to daphnia and other aquatic invertebrates : 39 mg/l  
Exposure time: 48 h  
Species: *Daphnia magna* (Water flea)  
Test Type: Immobilization

Toxicity to algae : ErC50: 5,6 mg/l  
Exposure time: 72 h  
Species: *Pseudokirchneriella subcapitata* (algae)  
Test Type: Growth inhibition

Toxicity to bacteria : EC10: 12 mg/l  
Exposure time: 0,5 h  
Species: activated sludge  
Test Type: Respiration inhibition  
Method: Domestic OECD Guideline 209

**Components:****Test result****Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane**

Toxicity to fish	:	LC50: 44,2 mg/l Exposure time: 96 h Species: Poecilia reticulata (guppy) Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	:	39 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Test Type: Immobilization
Toxicity to algae	:	ErC50: 5,6 mg/l Exposure time: 72 h Species: Pseudokirchneriella subcapitata (algae) Test Type: Growth inhibition
Toxicity to bacteria	:	EC10: 12 mg/l Exposure time: 0,5 h Species: activated sludge Test Type: Respiration inhibition Method: Domestic OECD Guideline 209

**Methyl ethyl ketone**

Toxicity to fish	:	LC50: 3 220 mg/l Exposure time: 96 h Species: Lepomis macrochirus (Bluegill sunfish)
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**12.2 Persistence and degradability**

**Product information** : No information available.

**Components:****Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane**

Biodegradability : Result: Readily biodegradable.  
Method: Closed Bottle test

**Methyl ethyl ketone**

Biodegradability : Result: Readily biodegradable.

**12.3 Bioaccumulative potential**

**Product information** : No information available.

**Components:****Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane**

Bioaccumulation : Bioconcentration factor (BCF): 10,3  
Not expected considering the low log Pow value.

**12.4 Mobility in soil**

**Product information** : No information available.

## 12.5 Results of PBT and vPvB assessment

### Product information:

PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 12.6 Other adverse effects

Product information : No information available.

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## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Hazardous waste  
Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not burn, or use a cutting torch on, the empty drum.  
Due to the high risk of contamination recycling/recovery is not recommended.  
Follow all warnings even after the container is emptied.

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## SECTION 14: TRANSPORT INFORMATION

### 14.1 UN number

ADN : UN 3105  
ADR : UN 3105  
RID : UN 3105  
IMDG-Code : UN 3105  
IATA-DGR : UN 3105

### 14.2 Proper shipping name

ADN : ORGANIC PEROXIDE TYPE D, LIQUID  
(Methyl ethyl ketone peroxide)  
ADR : ORGANIC PEROXIDE TYPE D, LIQUID  
(Methyl ethyl ketone peroxide)  
RID : ORGANIC PEROXIDE TYPE D, LIQUID  
(Methyl ethyl ketone peroxide)  
IMDG-Code : ORGANIC PEROXIDE TYPE D, LIQUID  
(Methyl ethyl ketone peroxide)  
IATA-DGR : Organic peroxide type D, liquid  
(Methyl ethyl ketone peroxide)

### 14.3 Transport hazard class

ADN : 5.2  
ADR : 5.2  
RID : 5.2



# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

**IMDG-Code** : 5.2

**IATA-DGR** : 5.2

## 14.4 Packing group

### ADN

Packing group : Not Assigned

Classification Code : P1

Labels : 5.2

### ADR

Packing group : Not Assigned

Classification Code : P1

Labels : 5.2

Tunnel restriction code : (D)

### RID

Packing group : Not Assigned

Classification Code : P1

Hazard Identification Number : 539

Labels : 5.2

### IMDG-Code

Packing group : Not Assigned

Labels : 5.2

EmS Code : F-J, S-R

### IATA-DGR

Packing instruction (cargo aircraft) : 570

Packing instruction (passenger aircraft) : 570

Packing group : Not Assigned

Labels : 5.2 (HEAT)

## 14.5 Environmental hazards

### ADN

Environmentally hazardous : no

### ADR

Environmentally hazardous : no

### RID

Environmentally hazardous : no

### IMDG-Code

Marine pollutant : no

### IATA-DGR

Environmentally hazardous : no

## 14.6 Special precautions for user

Not applicable

## 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

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## SECTION 15: REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Quantity 1

Quantity 2

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

P6b	SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES	50 t	200 t
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## Notification status

TCSI	: YES. On the inventory, or in compliance with the inventory
TSCA	: YES. All substances listed as active on the TSCA inventory
AICS	: YES. On the inventory, or in compliance with the inventory
DSL	: YES. All components of this product are on the Canadian DSL
ENCS	: YES. On the inventory, or in compliance with the inventory
ISHL	: YES. On the inventory, or in compliance with the inventory
KECI	: YES. On the inventory, or in compliance with the inventory
PICCS	: YES. On the inventory, or in compliance with the inventory
IECSC	: YES. On the inventory, or in compliance with the inventory
NZIoC	: YES. On the inventory, or in compliance with the inventory

For explanation of abbreviation see section 16.

## 15.2 Chemical safety assessment

Methyl ethyl ketone peroxide; Reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane : A Chemical Safety Assessment has been carried out for this substance.

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## SECTION 16: OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

H225	: Highly flammable liquid and vapour.
H240	: Heating may cause an explosion.
H242	: Heating may cause a fire.
H302	: Harmful if swallowed.
H314	: Causes severe skin burns and eye damage.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H332	: Harmful if inhaled.
H336	: May cause drowsiness or dizziness.

### Classification procedure:

Organic peroxides, D, H242, Based on product data or assessment  
Acute toxicity, 4, H302, Based on product data or assessment  
Acute toxicity, 4, H332, Based on product data or assessment  
Skin corrosion, 1B, H314, Calculation method  
Serious eye damage, 1, H318, Based on product data or assessment

### Full text of other abbreviations

2000/39/EC	: Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2006/15/EC	: Europe. Indicative occupational exposure limit values
2017/164/EU	: Commission Directive (EU) 2017/164 establishing a fourth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC, and amending Commission Directives 91/322/EEC, 2000/39/EC and 2009/161/EU
BE OEL	: Belgium. Occupational exposure limit values

# BUTANOX M-50

Version 2

Revision Date 10.03.2020

Print Date 11.03.2020

BE / EN

2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
2006/15/EC / TWA	:	Limit Value - eight hours
2017/164/EU / STEL	:	Short term exposure limit
2017/164/EU / TWA	:	Limit Value - eight hours
BE OEL / TLV 8 hr	:	Long term exposure limit
BE OEL / TLV 15 min	:	Short term exposure limit

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

## Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.