

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name : BUTANOX M-50

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

Use of the Substance/Mixture : Curing agent

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

Company : Nouryon Functional Chemicals B.V.  
Haaksbergweg 88  
NL 1101 BZ Amsterdam  
Netherlands

Telephone : +31889840367

E-mail address of person responsible for the SDS : polymer.emeia@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 (836) 74 8810, CN: 化学事故应急咨询电话 : +86 532 8388 9090-: Nouryon Emergency Response Centre: +31 570 679211  
Poison Centre: 0845 46 47 (England/Wales) / 08454 24 24 24 (Scotland)

---

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

Organic peroxides, Type D H242: Heating may cause a fire.

Acute toxicity, Category 4 H302: Harmful if swallowed.

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version 3.0	Revision Date: 12.04.2023	GB / EN	Date of last issue: 08.11.2021 Date of first issue: 29.04.2015
----------------	------------------------------	---------	---

Acute toxicity, Category 4	H332: Harmful if inhaled.
Skin corrosion, Sub-category 1B	H314: Causes severe skin burns and eye damage.
Serious eye damage, Category 1	H318: Causes serious eye damage.

#### 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)**

Hazard pictograms :



Signal word : Danger

Hazard statements : H242 Heating may cause a fire.  
H302 + H332 Harmful if swallowed or if inhaled.  
H314 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/ hearing 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

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version 3.0      Revision Date: 12.04.2023      GB / EN      Date of last issue: 08.11.2021  
Date of first issue: 29.04.2015

#### 2.3 Other hazards

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

#### Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Methyl ethyl ketone peroxide	1338-23-4 215-661-2	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	78-93-3 201-159-0 606-002-00-3	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 (Central nervous system)	>= 1 - <= 3
<b>Substances with a workplace exposure limit :</b>			
Dimethyl phthalate	131-11-3 205-011-6		>= 55 - <= 70
Remarks	: <b>Substances with a workplace exposure limit</b>		

For explanation of abbreviations see section 16.

## 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.

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

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.

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.

---

## 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 : CAUTION: reignition may occur.  
Supports combustion.  
Water spray may be ineffective unless used by experienced firefighters.

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

Do not allow run-off from fire fighting to enter drains or water courses.  
Hazardous decomposition products formed under fire conditions.

Hazardous 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.

---

## SECTION 6: Accidental release measures

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

Personal precautions : Use personal protective equipment.  
Wear respiratory protection.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.  
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.  
Discharge into the environment must be avoided.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Soak up with inert absorbent material and dispose of as hazardous waste.  
Use only inert inorganic material such as vermiculite or perlite as absorbent.  
Keep mixture of absorbent material and spilled product wetted with water.

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

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.

---

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

- |   |   |   |
|---|---|---|
| Advice on safe handling                         | : | For personal protection see section 8.<br>Avoid formation of aerosol.<br>Do not breathe vapours or spray mist.<br>Smoking, eating and drinking should be prohibited in the application area.<br>Provide sufficient air exchange and/or exhaust in work rooms.<br>Open drum carefully as content may be under pressure.<br>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.<br>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.                                       |
| 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.   |
| 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. Electrical installations / working materials must comply with the technological safety standards. Keep only in original container. Store away from other materials. |
| Further information on storage stability      | : | Maximum storage temperature is for quality only.  |
| Maximum storage temperature:                  | : | 25 °C   |

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version 3.0      Revision Date: 12.04.2023      GB / EN      Date of last issue: 08.11.2021  
Date of first issue: 29.04.2015

#### 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

#### Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Dimethyl phthalate	131-11-3	TWA	5 mg/m <sup>3</sup>	GB EH40
		STEL	10 mg/m <sup>3</sup>	GB EH40
Methyl ethyl ketone peroxide	1338-23-4	STEL	0.2 ppm 1.5 mg/m <sup>3</sup>	GB EH40
Methyl ethyl ketone	78-93-3	TWA	200 ppm 600 mg/m <sup>3</sup>	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	300 ppm 899 mg/m <sup>3</sup>	GB EH40
	Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.			
		STEL	300 ppm 900 mg/m <sup>3</sup>	2000/39/EC
	Further information: Indicative			
		TWA	200 ppm 600 mg/m <sup>3</sup>	2000/39/EC
	Further information: Indicative			

#### Occupational exposure limits of decomposition products

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Formic acid	64-18-6	TWA	5 ppm 9.6 mg/m <sup>3</sup>	GB EH40
		TWA	5 ppm 9 mg/m <sup>3</sup>	2006/15/EC
	Further information: Indicative			
Organic acid	64-19-7	STEL	20 ppm 50 mg/m <sup>3</sup>	GB EH40
		TWA	10 ppm 25 mg/m <sup>3</sup>	GB EH40

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version  
3.0

Revision Date:  
12.04.2023

GB / EN

Date of last issue: 08.11.2021  
Date of first issue: 29.04.2015

		TWA	10 ppm 25 mg/m <sup>3</sup>	2017/164/EU
Further information: Indicative				
		STEL	20 ppm 50 mg/m <sup>3</sup>	2017/164/EU
Further information: Indicative				
Fatty acid	79-09-4	STEL	15 ppm 46 mg/m <sup>3</sup>	GB EH40
		TWA	10 ppm 31 mg/m <sup>3</sup>	GB EH40
		STEL	20 ppm 62 mg/m <sup>3</sup>	2000/39/EC
Further information: Indicative				
		TWA	10 ppm 31 mg/m <sup>3</sup>	2000/39/EC
Further information: Indicative				
Methyl ethyl ketone	78-93-3	TWA	200 ppm 600 mg/m <sup>3</sup>	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	300 ppm 899 mg/m <sup>3</sup>	GB EH40
Further information: Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.				
		STEL	300 ppm 900 mg/m <sup>3</sup>	2000/39/EC
Further information: Indicative				
		TWA	200 ppm 600 mg/m <sup>3</sup>	2000/39/EC
Further information: Indicative				

#### Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Methyl ethyl ketone	78-93-3	butan-2-one: 70 micromol per litre (Urine)	After shift	GB EH40 BAT

#### 8.2 Exposure controls

##### Engineering measures

Explosion proof ventilation recommended.  
Effective exhaust ventilation system  
Ensure that eyewash stations and safety showers are close to the workstation location.

##### Personal protective equipment



## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

Eye/face protection	:	Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Hand protection	:	
Material	:	Neoprene
Material	:	Nitrile rubber
Material	:	butyl-rubber
Break through time	:	>= 480 min
Glove thickness	:	0.5 mm
Remarks	:	Breakthrough time is not determined for the product. Change gloves often! 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.
Skin and body protection	:	Protective suit
Respiratory protection	:	In the case of vapour or aerosol formation use a respirator with an approved filter. Filter A

---

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance	:	Clear liquid
Colour	:	colourless
Odour	:	Faint.
Odour Threshold	:	No data available
pH	:	Not applicable
Melting point	:	No data available
Boiling point/boiling range	:	Decomposes below the boiling point.
Flash point	:	Above the SADT value

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

		No flash point was obtained, but the product may release flammable vapour.
Evaporation rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	1 hPa (84 °C)
Relative vapour density	:	No data available
Relative density	:	1.180 (20 °C)
Bulk density	:	Not applicable
Solubility(ies)		
Water solubility	:	partly miscible (20 °C)
Solubility in other solvents	:	(20 °C) Description: 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.
Viscosity		
Viscosity, dynamic	:	24 mPa.s (20 °C)
Viscosity, kinematic	:	20.34 mm <sup>2</sup> /s (20 °C)
Explosive properties	:	Not explosive
Oxidizing properties	:	Not classified as oxidising.

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

#### 9.2 Other information

Self-Accelerating decomposition temperature (SADT)	:	60 °C
Flammability (liquids)	:	Decomposition products may be flammable.
Active Oxygen Content	:	8.8 - 9.0 %
Organic peroxides	:	30 - 37 %

---

## 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

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.

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

#### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

Hazardous decomposition products : Carbon oxides  
Formic acid  
Organic acid  
Fatty acid  
Methyl ethyl ketone

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

---

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Harmful if swallowed or if inhaled.

#### Product:

Acute oral toxicity : LD50 Oral (rats): 1,017 mg/kg  
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 (Rabbit): 4,000 mg/kg  
Method: OECD Test Guideline 402

#### Components:

#### **Methyl ethyl ketone peroxide:**

Acute oral toxicity : LD50 (Rat, male): 1,017 mg/kg  
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat, male and female): 1.5 mg/l

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

Exposure time: 4 h  
 Test atmosphere: dust/mist  
 Method: OECD Test Guideline 403  
 GLP: no

Acute dermal toxicity : LD50 (Rabbit, male and female): 4,000 mg/kg  
 Method: OECD Test Guideline 402

#### **Methyl ethyl ketone:**

Acute oral toxicity : LD50 (Rat): 2,737 mg/kg  
 Acute dermal toxicity : LD50 (Rabbit): 6,480 mg/kg

#### **Dimethyl phthalate:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg  
 Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhalation toxicity  
 Acute dermal toxicity : LD50 (Rabbit): > 10,000 mg/kg

#### **Skin corrosion/irritation**

Causes severe burns.

#### **Product:**

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

#### **Components:**

##### **Methyl ethyl ketone peroxide:**

Result : Causes burns.

##### **Methyl ethyl ketone:**

Result : Repeated exposure may cause skin dryness or cracking.  
 Remarks : Moderately irritating.

##### **Dimethyl phthalate:**

Result : slight irritation

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

## BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

### Serious eye damage/eye irritation

Causes serious eye damage.

#### Product:

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

#### Components:

##### Methyl ethyl ketone peroxide:

Result	:	Risk of serious damage to eyes.
--------	---	---------------------------------

##### Methyl ethyl ketone:

Result	:	Irritating to eyes.
--------	---	---------------------

##### Dimethyl phthalate:

Result	:	Slightly irritating to eyes.
--------	---	------------------------------

### Respiratory or skin sensitisation

#### Skin sensitisation

Not classified based on available information.

#### Respiratory sensitisation

Not classified based on available information.

#### Components:

##### Methyl ethyl ketone peroxide:

Assessment	:	Does not cause skin sensitisation.
------------	---	------------------------------------

#### Germ cell mutagenicity

Not classified based on available information.

#### Components:

##### Methyl ethyl ketone peroxide:

Genotoxicity in vitro	:	Test Type: Ames test Result: negative
-----------------------	---	--

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

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

#### **Carcinogenicity**

Not classified based on available information.

#### **Components:**

##### **Methyl ethyl ketone peroxide:**

Remarks : No data available

#### **Reproductive toxicity**

Not classified based on available information.

#### **Components:**

##### **Methyl ethyl ketone peroxide:**

Effects on fertility : Species: Rat, male and female  
 Application Route: Oral  
 Dose: 0 25, 50, 75 milligram per kilogram  
 General Toxicity - Parent: NOAEL: 50 mg/kg bw/day  
 General Toxicity F1: NOAEL F1: 50 mg/kg bw/day  
 Fertility: NOAEL Parent: 75 mg/kg bw/day  
 Method: OECD Test Guideline 421  
 GLP: yes

#### **STOT - single exposure**

Not classified based on available information.

#### **Components:**

##### **Methyl ethyl ketone peroxide:**

Remarks : Not classified due to data which are conclusive although insufficient for classification.

##### **Methyl ethyl ketone:**

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

#### **STOT - repeated exposure**

Not classified based on available information.

#### **Components:**

##### **Methyl ethyl ketone peroxide:**

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

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

#### Aspiration toxicity

Not classified based on available information.

#### Components:

##### Methyl ethyl ketone peroxide:

No aspiration toxicity classification

##### Methyl ethyl ketone:

No aspiration toxicity classification

##### Dimethyl phthalate:

No aspiration toxicity classification

#### Further information

##### Product:

Remarks : No further data available.

##### Components:

##### Dimethyl phthalate:

Remarks : No further data available.

---

## SECTION 12: Ecological information

### 12.1 Toxicity

#### Product:

Toxicity to fish	:	LC50 (Poecilia reticulata (guppy)): 44.2 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	:	(Daphnia magna (Water flea)): 39 mg/l Exposure time: 48 h Test Type: Immobilization GLP: yes
Toxicity to algae/aquatic plants	:	ErC50 (Pseudokirchneriella subcapitata (algae)): 5.6 mg/l Exposure time: 72 h Test Type: Growth inhibition
Toxicity to microorganisms	:	EC10 (activated sludge): 12 mg/l



## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

Exposure time: 0.5 h  
Test Type: Respiration inhibition  
Method: Domestic OECD Guideline 209

#### Components:

##### **Methyl ethyl ketone peroxide:**

- |   |   |   |
|---|---|---|
| Toxicity to fish                                    | : | LC50 (Poecilia reticulata (guppy)): 44.2 mg/l<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Method: OECD Test Guideline 203<br>GLP: yes              |
|   |   | NOEC (Poecilia reticulata (guppy)): 18 mg/l<br>Exposure time: 96 h<br>Test Type: semi-static test<br>Method: OECD Test Guideline 203<br>GLP: yes                |
| Toxicity to daphnia and other aquatic invertebrates | : | EC50 (Daphnia magna (Water flea)): 39 mg/l<br>Exposure time: 48 h<br>Test Type: Immobilization<br>Method: OECD Test Guideline 202<br>GLP: yes                   |
|   |   | NOEC (Daphnia magna (Water flea)): 26.7 mg/l<br>Exposure time: 24 h<br>Test Type: Immobilization<br>Method: OECD Test Guideline 202<br>GLP: yes                 |
| Toxicity to algae/aquatic plants                    | : | ErC50 (Pseudokirchneriella subcapitata (algae)): 5.6 mg/l<br>Exposure time: 72 h<br>Test Type: Growth inhibition<br>Method: OECD Test Guideline 201<br>GLP: yes |
|   |   | NOEC (Pseudokirchneriella subcapitata (algae)): 2.1 mg/l<br>Exposure time: 72 h<br>Test Type: Growth inhibition<br>Method: OECD Test Guideline 201<br>GLP: yes  |
| Toxicity to microorganisms                          | : | EC50 (activated sludge): 48 mg/l<br>Exposure time: 0.5 h<br>Test Type: Respiration inhibition<br>Method: Domestic OECD Guideline 209                            |

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

GLP: yes

EC10 (activated sludge): 12 mg/l

Exposure time: 0.5 h

Test Type: Respiration inhibition

Method: Domestic OECD Guideline 209

GLP: yes

#### Methyl ethyl ketone:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 3,220 mg/l  
Exposure time: 96 h

#### Dimethyl phthalate:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 420 mg/l  
Exposure time: 96 h

Toxicity to algae/aquatic plants : EC10 (Desmodesmus subspicatus (green algae)): 193.09 mg/l  
Exposure time: 72 h  
Test Type: Growth inhibition  
Method: OECD Test Guideline 201

ErC50 (Desmodesmus subspicatus (green algae)): 259.76 mg/l

Exposure time: 72 h

Test Type: Growth inhibition

Method: OECD Test Guideline 201

Toxicity to fish (Chronic toxicity) : NOEC: 11 mg/l  
Exposure time: 102 d  
Species: Oncorhynchus mykiss (rainbow trout)  
Test Type: flow-through test  
Method: Other guidelines

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 9.6 mg/l  
End point: reproduction rate  
Exposure time: 21 d  
Species: Daphnia magna (Water flea)  
Method: Other guidelines

#### Ecotoxicology Assessment

Acute aquatic toxicity : Harmful to aquatic life.

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

#### 12.2 Persistence and degradability

##### Components:

##### **Methyl ethyl ketone peroxide:**

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

##### **Methyl ethyl ketone:**

Biodegradability : Result: Readily biodegradable.

##### **Dimethyl phthalate:**

Biodegradability : Result: Readily biodegradable.  
Biodegradation: 93 - 98 %

#### 12.3 Bioaccumulative potential

##### Components:

##### **Methyl ethyl ketone peroxide:**

Bioaccumulation : Bioconcentration factor (BCF): 10.3  
Remarks: Not expected considering the low log Pow value.

Partition coefficient: n-octanol/water : log Pow: < 2.04 (25 °C)  
Method: OECD Test Guideline 117

##### **Methyl ethyl ketone:**

Partition coefficient: n-octanol/water : log Pow: 0.29

##### **Dimethyl phthalate:**

Bioaccumulation : Species: Fish  
Exposure time: 1 d  
Bioconcentration factor (BCF): 5.4

Partition coefficient: n-octanol/water : log Pow: 2.12

#### 12.4 Mobility in soil

No data available

#### 12.5 Results of PBT and vPvB assessment

##### Product:

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

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:

Endocrine disrupting potential	: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.
--------------------------------	---

Additional ecological information	: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
-----------------------------------	---

##### Components:

##### **Dimethyl phthalate:**

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

---

## 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. 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.
------------------------	---

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

## SECTION 14: Transport information

### 14.1 UN number

<b>ADR</b>	:	UN 3105
<b>RID</b>	:	UN 3105
<b>IMDG</b>	:	UN 3105
<b>IATA</b>	:	UN 3105

### 14.2 UN proper shipping name

<b>ADR</b>	:	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl ethyl ketone peroxide)
<b>RID</b>	:	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl ethyl ketone peroxide)
<b>IMDG</b>	:	ORGANIC PEROXIDE TYPE D, LIQUID (Methyl ethyl ketone peroxide)
<b>IATA</b>	:	Organic peroxide type D, liquid (Methyl ethyl ketone peroxide)

### 14.3 Transport hazard class(es)

<b>ADR</b>	:	5.2
<b>RID</b>	:	5.2
<b>IMDG</b>	:	5.2
<b>IATA</b>	:	5.2

### 14.4 Packing group

<b>ADR</b>		
Packing group	:	Not assigned by regulation
Classification Code	:	P1
Labels	:	5.2
Tunnel restriction code	:	(D)
<b>RID</b>		
Packing group	:	Not assigned by regulation
Classification Code	:	P1
Hazard Identification Number	:	539
Labels	:	5.2
<b>IMDG</b>		
Packing group	:	Not assigned by regulation
Labels	:	5.2
EmS Code	:	F-J, S-R

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

#### IATA (Cargo)

Packing instruction (cargo aircraft) : 570  
 Packing group : Not assigned by regulation  
 Labels : Organic Peroxides, Keep Away From Heat

#### IATA (Passenger)

Packing instruction (passenger aircraft) : 570  
 Packing group : Not assigned by regulation  
 Labels : Organic Peroxides, Keep Away From Heat

#### 14.5 Environmental hazards

##### ADR

Environmentally hazardous : no

##### RID

Environmentally hazardous : no

##### IMDG

Marine pollutant : no

#### 14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

#### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

---

## SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Conditions of restriction for the following entries should be considered: Number on list 3
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Organic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
Regulation (EC) No 1005/2009 on substances that	:	Not applicable

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

deplete the ozone layer

UK REACH List of substances subject to authorisation (Annex XIV) : Not applicable

GB Export and import of hazardous chemicals - Prior Informed Consent (PIC) Regulation : Not applicable

Control of Major Accident Hazards Regulations 2015 (COMAH) P6b SELF-REACTIVE SUBSTANCES AND MIXTURES and ORGANIC PEROXIDES

#### Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

#### The components of this product are reported in the following inventories:

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: All substances listed as active on the TSCA inventory
AIIC	: All components are listed on the inventory, regulatory obligations/restrictions apply
DSL	: All components of this product are on the Canadian DSL
ENCS	: On the inventory, or in compliance with the inventory
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory
PICCS	: On the inventory, or in compliance with the inventory
IECSC	: On the inventory, or in compliance with the inventory
NZIoC	: On the inventory, or in compliance with the inventory
TECI	: On the inventory, or in compliance with the inventory

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

## BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

### 15.2 Chemical safety assessment

Methyl ethyl ketone peroxide : A Chemical Safety Assessment has been carried out for this substance.

---

## SECTION 16: Other information

### Full text of H-Statements

H225 : Highly flammable liquid and vapour.  
H240 : Heating may cause an explosion.  
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.

### Full text of other abbreviations

Acute Tox. : Acute toxicity  
Eye Dam. : Serious eye damage  
Eye Irrit. : Eye irritation  
Flam. Liq. : Flammable liquids  
Org. Perox. : Organic peroxides  
Skin Corr. : Skin corrosion  
STOT SE : Specific target organ toxicity - single exposure  
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 : Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values  
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits  
GB EH40 BAT : UK. Biological monitoring guidance values  
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  
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)  
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; 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);



## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

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; TECL - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

#### Further information

##### Classification of the mixture:

Org. Perox. D	H242
Acute Tox. 4	H302
Acute Tox. 4	H332
Skin Corr. 1B	H314
Eye Dam. 1	H318

##### Classification procedure:

Based on product data or assessment
Based on product data or assessment
Based on product data or assessment
Calculation method
Based on product data or assessment

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

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

## SAFETY DATA SHEET

According to REACH Regulation (EC) No 1907/2006, as amended by  
UK REACH Regulations SI 2019/758

### BUTANOX M-50

Version	Revision Date:	GB / EN	Date of last issue: 08.11.2021
3.0	12.04.2023		Date of first issue: 29.04.2015

---

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.

GB / EN