

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 1 of 17
Print date: 13-2-2025

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

1.1 Product identification:

Product name: MEK peroxide Butanox M-50
UFI code: QYCC-20F6-500N-OXY2

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

Usage: Hardener for polyester resins.

1.3 Details of the supplier of the safety data sheet

Responsible distributor: ASSYST bvba / A.S.O.W. bvba
Hellegatstraat 13a
2590 Berlaar
Belgium
Tel: +32 495 50 61 14 / +32 496 83 70 27
Website: www.assyst.org / www.artsuppliesonweb.com
Email: ao@assyst.org / vera.opsommer@assyst.org

1.4 Emergency phone number:

For Belgium: Call the **Poison Control Centre (070 245 245 - free)**, if not available: **02 264 96 30** (normal rate) or your doctor. In life-threatening situations, always call the European emergency number **112**.
NHS 24 Direct For help from a GP, visit your GP surgery's website, use an online service to contact your GP, or call the surgery. **For urgent medical help**, use the NHS 111 online service, or **call 111** if you are unable to get help online. **For life-threatening emergencies, call 999** for an ambulance. There is more information about getting medical help on the NHS website.

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture:

Classification according to Directive (EC) No 1272/2008 and its amendments.

The product is classified according to applicable legislation.

Classification according to Regulation (EC) No 1272/2008, as amended.

Health hazards

Organic peroxides, type D H242: Heating may cause a fire hazard.
Acute toxicity, category 4 H302: Harmful if swallowed.
Acute toxicity, category 4 H332: Harmful by inhalation.
Skin corrosion/irritation, Subcategory 1B H314: Causes severe skin burns and eye damage.
Serious eye damage, category 1 H318: Causes serious eye damage.

2.2 Label elements:

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]:



Hazard pictograms:

Signal word Danger.

Hazardous ingredients that must be labelled

- ✓ Methyl ethyl ketone peroxide; reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane (CAS No 1338-23-4)

Indications of danger:

H242 Heating may cause a fire.
H302 + H332 Harmful if swallowed or if inhaled.
H314 Causes severe burns and eye damage.

Precautions

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 2 of 17
Print date: 13-2-2025

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other sources of ignition. Do not smoke.
P234 Keep only in the original container.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Action:

P303 + P361 + P353 IF ON SKIN (or hair): Remove contaminated clothing immediately. Rinse skin with water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes; remove contact lenses, if possible; continue rinsing.
P370 + P378 In case of fire: extinguish with water spray, alcohol-resistant foam, dry powder or carbon dioxide.

2.3 Other hazards:

This substance/mixture does not contain any components that can be considered persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information

The substance/mixture does not contain any components believed 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 level 0.1% or higher.

Toxicological information:

The substance/mixture does not contain any components believed 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 level 0.1% or higher.

SECTION 3: Composition and information on ingredients**3.2 Mixtures:**

Chemical name	CAS No. EC No. Index no. Registration number	Layout (Regulation (EC) No 1272/008)	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. D; H240 Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Corr. 1B; H314 Eye Dam. 1; H318 <u>Acute toxicity estimates</u> Acute oral toxicity: 1017 mg/kg Acute toxicity by inhalation (dust/mist): 1.5 mg/l	>=30 -<= 37
Methyl Ethyl Ketone	78-93-3 201-159-0 606-002-00-3 01-2119457290-43-	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 (Central nervous system) EUH066	>=1 -<= 3

For the full text of the H statements mentioned in this chapter, see chapter 16.

SECTION 4: First aid measures**4.1 Description of first-aid measures:****General advice:**

Immediate medical attention is required.
Leave the dangerous area.
Show this safety data sheet to the attending physician.

By inhalation:

If inhaled, move the person to fresh air.
Consult a doctor after significant exposure.

In case of skin contact:

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 3 of 17
Print date: 13-2-2025

Take off contaminated clothes and shoes immediately.

Rinse immediately with plenty of water.

Immediate medical treatment is necessary because untreated wounds due to corrosion of the skin heal slowly and with difficulty.

In case of eye contact:

Rinse with plenty of water.

Get medical attention immediately.

Keep rinsing during transport.

Remove contact lenses.

Protect the undamaged eye.

Keep your eyes wide open while rinsing.

Small amounts splashed into the eyes can cause irreversible tissue damage and blindness.

If swallowed:

Clean mouth with water and then drink lots of water.

Never give anything by mouth to an unconscious person.

Take the victim to hospital immediately.

Do not vomit!

May cause chemical burns in mouth and throat.

4.2 Main acute and delayed symptoms and effects:

Symptoms:

Symptoms and effects are as expected with the hazards described 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 immediate medical attention and special treatment required:

Treatment:

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media:

Suitable extinguishing agents:

Use water spray, alcohol-resistant foam, drying powder or carbon dioxide.

Unsuitable extinguishing media:

Strong water jet.

5.2 Special hazards arising from the substance or mixture

Specific firefighting hazards / specific hazards due to the chemical:

CAUTION: re-ignition may occur.

Accelerates combustion.

Water spray can be ineffective unless used by experienced firefighters.

Prevent firewater from entering drains or watercourses.

Hazardous decomposition products formed in case of fire.

Hazardous combustion products:

Fire causes smoke containing hazardous decomposition products (see section 10).

5.3 Advice for firefighters:

Special protective equipment for firefighters:

In case of fire, wear a compressed air mask.

Further information:

Use water spray to cool unopened containers.

Collect contaminated firewater separately.

This should not be discharged into the sewerage system.

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 4 of 17
Print date: 13-2-2025

Fire debris and contaminated fire fighting water must be disposed of according to local regulations.

SECTION 6: Measures in case of accidental release of the substance or mixture

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 explosive concentrations.
Vapours can accumulate in low-lying areas.

Emergency measures in case of accidental release:

Evacuate personnel to a safe area.
Only qualified personnel with appropriate protective equipment should act.
Prevent unauthorised persons from entering the zone.

6.2 Environmental precautions:

Environmental precautions:

Prevent the product from entering the sewage system.
Discharge into the environment should be avoided.

6.3 Containment and cleaning methods and materials

Methods of clearance / methods of containment:

Absorb with inert absorbent material and dispose of as hazardous waste.
Use only inert inorganic material such as vermiculite or perlite as absorbers.
Keep the mixture of absorbent material and spilt product moistened with water.
Closure should be avoided.
Never put spilt liquid in the original container for reuse.

6.4 Reference to other sections:

See chapter 13 for information on disposal.
For personal protection, see chapter 8.

SECTION 7: Handling and storage:

7.1 Precautions for safe handling of the substance or mixture

Advice on safe use:

For personal protection, see chapter 8.
Avoid aerosol formation.
Do not inhale vapours or spray mist.
Smoking, eating and drinking should be banned in the application area.
Ensure adequate ventilation and/or extraction in work areas.
Open the vessel carefully, as the contents may be under pressure.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion:

Use explosion-proof equipment.
Keep away from sources of ignition - No smoking.
Use spark-free tools.
Keep away from reducing agents (e.g. amines), acids, bases and heavy metal compounds (e.g. accelerators, dryers, metal soaps).
Do not cut or weld on or near this container, even when empty.
Keep away from combustible material.

Hygiene measures

Use according to common rules and practices related to industrial hygiene and safety.
Do not eat or drink during use.
Do not smoke during use.

According to directive 1907/2006/EC, 2020/878
 Version 3.2 Revision date: 03-12-2024
 Trade name: MEK peroxide Butanox M-50

Page: 5 of 17
 Print date: 13-2-2025

Wash hands before every work break and at the end of the working day.

Temperature class:

It is recommended to use electrical equipment of temperature group T3.
 However, self-ignition can never be ruled out.

7.2 Conditions for safe storage, including incompatible products

Requirements for storage areas and containers:

No smoking.

Store in a well-ventilated place.

Electrical installations / work materials must comply with technological safety standards.

Keep only in the original packaging.

Do not store near other materials.

More information on storage stability:

Maximum storage temperature is for quality only.

Minimum storage temperature:

Avoid temperatures below -25°C.

Maximum storage temperature:

25°C

7.3 Specific end use:

Specific use:

Refer to the technical guidance for the use of this substance or mixture.

SECTION 8: Exposure controls/personal protection measures

8.1 Control parameters:

Components with workplace limits.

Components	CAS no.	Value type (Form of exposure)	Control parameters	Basic
Methyl Ethyl Ketone	78-93-3	STEL	300 ppm 900 mg/m ³	2000/39/EC
	Further information: Indication			
		TWA	200 ppm 600 mg/m ³	2000/39/EC
	Further information: Indication			
		TLV 15 min	300 ppm 900 mg/m ³	BE OEL
	Further information: skin absorption			
		TLV 8 hours	200 ppm 600 mg/m ³	BE OEL
	Further information: skin absorption			

Occupational exposure limits for decomposition products

Components	CAS no.	Value type (Form of exposure)	Control parameters	Basic
Formic acid	64-18-6	TWA	5 ppm 9 mg/m ³	2006/15/EC
	Further information: Indication			
		TLV 15 min	10 ppm 19 mg/m ³	BE OEL
		TWA	5 ppm	ACGIH
		STEL	10 ppm	ACGIH
Acetic acid	64-19-7	TWA	10 ppm 25 mg/m ³	2017/164/EI
	Further information: Indication			
		STEL	20 ppm 50 mg/m ³	2017/164/EU
	Further information: Indication			
		TLV 8 hours	10 ppm 25 mg/m ³	BE OEL

SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 6 of 17
Print date: 13-2-2025

		TLV 15 min	15 ppm 38 mg/m ³	BE OEL
		TWA	10 ppm	ACGIH
		STEL	15 ppm	ACGIH
Propionic acid	79-09-4	STEL	20 ppm 62 mg/m ³	2000/39/EC
Further information: Indication				
		TWA	10 ppm 31 mg/m ³	2000/39/EC
Further information: Indication				
		TLV 8 hours	10 ppm 31 mg/m ³	BE OEL
		TLV 15 min	20 ppm 62 mg/m ³	BE OEL
		TWA	10 ppm	ACGIH
Methyl Ethyl Ketone	78-93-3	STEL	300 ppm 900 mg/m ³	2000/39/EC
Further information: Indication				
		TWA	200 ppm 600 mg/m ³	2000/39/EC
Further information: Indication				
		TLV 8 hours	200 ppm 600 mg/m ³	BE OEL
		TLV 15 min	300 ppm 900 mg/m ³	BE OEL
		TWA	200 ppm	ACGIH
		STEL	300 ppm	ACGIH

Derived no-effect dose (DNEL) in accordance with Regulation (EC) No 1907/2006:

Name substance	End use	Exposure routes	Possible health effects	Value
Dimethyl phthalate	Consumers	Ingestion	Long-term systemic effects	25 mg/kg
	Consumers	Inhalation	Long-term systemic effects	86.96 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	60 mg/kg
	Employees	Inhalation	Long-term systemic effects	293.86 mg/m ³
	Employees	Skin contact	Long-term systemic effects	100 mg/kg
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 ³
	Consumers	Ingestion	Long-term systemic effects	0.27 mg/kg
	Employees	Skin contact	Long-term systemic effects	1.08 mg/kg
	Employees	Inhalation	Long-term systemic effects	1.9 mg/m ³
Methyl Ethyl Ketone	Employees	Inhalation	Long-term systemic effects	600 mg/m ³
	Employees	Skin contact	Long-term systemic effects	1161 mg/kg
	Consumers	Inhalation	Long-term systemic effects	106 mg/m ³
	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:

Name substance	Environmental compartment	Value
Dimethyl phthalate	Freshwater	0.192 mg/l
	Seawater	0.0192 mg/l
	Intermittent water	0.39 mg/l
	Sewage treatment plant	4 mg/l
	Freshwater sediment	1,403 mg/kg dry weight
	Bottom	3.16 mg/kg dry weight
Methyl ethyl ketone peroxide; reaction mass of butane-2,2-diyl dihydroperoxide and di-sec-butylhexaoxidane	Freshwater	0.0056 mg/l
	Intermittent water	0.056 mg/l
	Seawater	0.00056 mg/l
	Freshwater sediment	0.019 mg/kg dry weight
	Marine sediment	0.0019 mg/kg dry weight
	Sewage treatment plant	1.2 mg/l

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 7 of 17
Print date: 13-2-2025

	Bottom	0.00231 mg/kg dry weight
Methyl Ethyl Ketone	Freshwater	55.8 mg/l
	Seawater	55.8 mg/l
	Intermittent water	55.8 mg/l
	Sewage treatment plant	709 mg/l
	Freshwater sediment	284.74 mg/kg dry weight
	Marine sediment	284.74 mg/kg dry weight
	Bottom	22.5 mg/kg dry weight
	Oral	1000 mg/kg food

8.2 Exposure control measures:

Technical measures:

Explosion-proof ventilation is recommended.

Effective extraction system.

Ensure that eyewash stations and safety showers are located close to the workplace.

Personal protective equipment:

Eye protection:

Close-fitting safety glasses.

Wear a face shield and protective suit in case of abnormal processing problems.

Hand protection

Material: Neoprene

Material: Nitrile rubber

Material: butyl rubber

Breakthrough time: >= 480 min

Glove thickness: 0.5 mm

Notes:

No breakthrough time determined for the product.

Change gloves regularly.

Data on soak time/material strength are default values!

The actual soaking time/material strength should be obtained from the manufacturer of the protective gloves.

Skin and body protection:

Protective suit.

Respiratory protection:

In case of vapour or aerosol formation, use respirator with approved filter.

Filter A.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice.

Do not eat or drink during use.

Do not smoke during use.

Wash hands before breaks and at the end of the working day.

Managing environmental exposure:

General advice:

Prevent the product from entering the sewage system.

Discharge into the environment should be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Clear liquid
Colour:	colourless
Odour:	faintly perceptible
Odour threshold:	No data available
Melting/freezing point:	No data available
Boiling point/boiling point range:	Decomposes below boiling point
Upper explosion/flammability limit:	No data available

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 8 of 17
Print date: 13-2-2025

Lower explosion/flammability limit:	No data available
Flash point:	Above SADT No flash point was determined, but the product may release flammable vapour. Test method not applicable
Self-ignition temperature:	SADT - (Self-accelerating decomposition temperature) is the lowest temperature at which self-accelerating decomposition can occur for a substance in packaging as used during transportation. A hazardous self-accelerating decomposition reaction and, under certain circumstances, explosions or fire may be caused by thermal decomposition at and above SADT. Contact with incompatible substances may cause decomposition below the SADT.
Decomposition temperature:	60°C
Self-accelerating decomposition temperature (SADT)	substance/mixture not stable
pH:	
Viscosity	
Viscosity, dynamic:	24 mPa.s at 20°C
Viscosity, kinematic:	20.34 mm ² /s at 20°C
Solubility:	
Solubility in water:	Partly miscible at 20°C
Solubility in other solvents:	At 20°C miscible with phthalates
Partition coefficient n-octanol/water:	No data available
Vapour pressure:	1 hPa at 84°C
Relative density:	1,180 g/cm ³ (20°C)
Bulk density:	Not applicable
Relative vapour density:	No data available
9.2 Other information	
Explosive properties:	Not explosive
Oxidising properties:	Not classified as oxidising.
Flammability (liquids):	Decomposition products may be flammable
Evaporation rate:	No data available
Active oxygen content:	8,8-9,0%

SECTION 10: Stability and reactivity

10.1 Reactivity:

Stable under normal conditions.

10.2 Chemical stability:

Stable under recommended storage conditions.

10.3 Possible hazardous reactions:

No hazardous reactions were observed under normal conditions of use.

10.4 Conditions to avoid

Conditions to avoid:

Closure should 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

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 9 of 17
Print date: 13-2-2025

- ✓ Heavy metals
- ✓ Rust

Do not mix with peroxide accelerators unless under controlled process conditions.

Use only stainless steel 316, PP, polyethylene or glass-lined equipment.

For questions on the suitability of other materials, please contact the supplier.

10.6 Hazardous decomposition products:

No decomposition if stored and applied as indicated:

Hazardous decomposition products:

- ✓ Carbon oxides
- ✓ Formic acid
- ✓ Acetic acid
- ✓ Propionic acid
- ✓ Methyl Ethyl Ketone

Thermal decomposition:

SADT - (Self-Accelerating Decomposition Temperature) is the lowest temperature at which self-accelerating decomposition can occur for a substance in packaging as used during transportation. A hazardous self-accelerating decomposition reaction and, under certain circumstances, explosions or fire may be caused by thermal decomposition at and above SADT. Contact with incompatible substances may cause decomposition below SADT.

Self-accelerating decomposition temperature (SADT):

60°C

SECTION 11: Toxicological information

11.1 Information on toxicological effects:

Acute toxicity

Harmful if swallowed and if inhaled

Product

Acute oral toxicity:

LD50 oral (rats): 1017 mg/kg

Method: Guideline test OECD 401

Acute toxicity by inhalation:

LC50 (Rat): 1.5 mg/l

Exposure time : 4 h

Test atmosphere: dust/mist

Acute dermal toxicity :

LD50 (Rabbit) : 4000 mg/kg

Method : Guideline test OECD 402

Constituents :

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

Acute oral toxicity:

LD50 oral (Rat, male): 1017 mg/kg

Method: Guideline test OECD 401

Acute toxicity by inhalation:

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

Exposure time : 4 h

Test atmosphere: dust/mist

Method: Guideline test OECD 403

GLP: no

Acute dermal toxicity :

LD50 (Rabbit, male and female) : 4000 mg/kg

Method : Guideline test OECD 402

Methyl ethyl ketone

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 10 of 17
Print date: 13-2-2025

Acute oral toxicity:

LD50 (Rat): 2737 mg/kg

Acute dermal toxicity :

LD50 (Rabbit) : 6480 mg/kg

Skin corrosion/irritation

Causes severe burns

Product

Species: rabbit

Assessment: category 1B

Method: tested in accordance with Annex V to Directive 67/548/EEC

Result: Subcategory 1B

Constituents :

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

Result: Causes burns

Methyl ethyl ketone

Result: Repeated exposure may cause dry or cracked skin.

Note: Moderate irritant.

Serious eye damage/eye irritation

Causes serious eye damage

Product

Species: rabbit

Assessment: Risk of serious damage to eyes

Method: tested in accordance with Annex V to Directive 67/548/EEC

Result: Risk of serious eye damage

Constituents :

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

Result: Risk of serious eye damage

Methyl ethyl ketone

Result: Irritating to eyes.

Respiratory/skin sensitisation

Respiratory sensitisation: Not classified based on available information.

Skin sensitisation: Not classified based on available information.

Constituents :

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

Result: Does not cause skin hypersensitivity.

Mutagenicity in gametes

Not classified based on available information.

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

Genotoxicity in vitro: Test type: Ames test

Result: negative

Genotoxicity in vivo: Comments: Not classified based on data decisive but insufficient for classification.

Carcinogenicity

Not classified based on available information.

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

Remarks: no data available.

Reproductive toxicity

Not classified based on available information.

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

Effects on fertility:

Species: Rat, male and female

Method of application: oral

Dose: 0, 25, 50, 75 milligrams per kilogram

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 11 of 17
Print date: 13-2-2025

General toxicity in parents: NOAEL: 50 mg/kg bw/day
General toxicity F1: NOAEL: 50 mg/kg bw/day
Fertility: NOAEL Parent: 75 mg/kg bw/day
Method: Guideline test OECD 421
GLP: yes

STOT from single exposure

Not classified based on available information.

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

Notes: Not classified based on data decisive but insufficient for classification.

Methyl Ethyl Ketone

Route of exposure: Inhalation

Assessment: The substance or mixture is classified as specific target organ, single exposure, category 3 with consciousness lowering effects.

STOT on repeated exposure

Not classified based on available information.

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

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

Aspiration toxicity

Not classified based on available information.

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

No classification for aspiration toxicity.

Methyl Ethyl Ketone

No classification for aspiration toxicity.

11.2 Information on other hazards

Endocrine-disrupting properties

Product:

Assessment:

The substance/mixture does not contain components believed 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 level 0.1% or higher.

Further information

Product:

Notes:

No data available

SECTION 12: Ecological information

12.1 Toxicity:

Product:

Toxicity to fish:

LC50: 44.2 mg/l

Exposure time: 96h

Species: Poecilia reticulata (guppy)

Type of test: semi-static test

Toxicity to daphnia and other aquatic invertebrates:

EC50 39 mg/l

Exposure time: 48h

Species: Daphnia magna (large water flea)

Type of test: immobilisation

Toxicity to algae:

ErC50 : 5.6 mg/l

Exposure time: 72 h

Species: Pseudokirchneriella subcapitata (microalgae)

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 12 of 17
Print date: 13-2-2025

Type of test: Growth inhibitor

Toxicity to bacteria:

EC10: 12 mg/l

Exposure time: 0.5h

Type: activated sludge

Type of test: Inhibition of breathing

Method: domestic OECD guideline 209

Constituents:

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: 96h

Species: Poecilia reticulata (guppy)

Type of test: semi-static test

NOEC: 18 mg/l

Exposure time: 96h

Species: Poecilia reticulata (guppy)

Type of test: semi-static test

Method: Guideline test OECD 203

GLP: yes

Toxicity to daphnia and other aquatic invertebrates:

EC 50: 39 mg/l

Exposure time: 48h

Species: Daphnia magna (large water flea)

Type of test: immobilisation

Method: OECD Guideline 202

GLP: yes

NOEC: 26.7 mg/l

Exposure time: 24h

Species: Daphnia magna (large water flea)

Method: OECD Guideline 202

GLP: yes

Toxicity to algae/water plants:

ErC50 : 5.6 mg/l

Exposure time: 72 h

Species: Pseudokirchneriella subcapitata (microalgae)

Type of test: Growth inhibitor

Method: OECD Guideline 201

GLP: yes

NOEC: 2.1 mg/l

Exposure time: 72h

Species: Pseudokirchneriella subcapitata (microalgae)

Method: OECD Guideline 202

GLP: yes

Toxicity to micro-organisms:

EC50: 48 mg/l

Exposure time: 0.5h

Type: activated sludge

Type of test: Respiratory inhibition

Method: domestic OECD guideline 209

GLP: yes

EC10: 12 mg/l

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 13 of 17
Print date: 13-2-2025

Exposure time: 0.5h
Type: activated sludge
Type of test: Respiratory inhibition
Method: domestic OECD guideline 209
GLP: yes

Methyl Ethyl Ketone

Toxicity to fish:

LC50: 3220 mg/l
Exposure time: 96h
Species: Lepomis macrochirus (Sunfish)

12.2 Persistence and degradability:

Constituents:

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 Bioaccumulation:

Constituents:

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

Bioaccumulation:

Bioconcentration factor (BCF): 10.3

Not to be expected with this low POW log value.

Partition coefficient n-octanol/water: log Pow: < 2,04 (25°C)

Method: OECD Guideline 117

Methyl Ethyl Ketone

Partition coefficient n-octanol/water: log Pow: 0,29

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment

Product:

PBT and vPvB assessment:

This substance or mixture does not contain any constituents that may be considered persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment:

The substance/mixture does not contain any components believed 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 level 0.1% or higher.

12.7 Other adverse effects:

Product:

Additional ecological information:

Improper handling or disposal of this substance poses a risk of environmental damage.

SECTION 13: Instructions for disposal

13.1 Waste treatment methods:

Product:

The product must not enter drains, watercourses or soil.

Do not contaminate ponds, waterways and ditches with chemicals or used containers.

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 14 of 17
Print date: 13-2-2025

Dispose of contents/container in accordance with local regulations.

Contaminated packaging:

Empty the remaining contents.

Discard as unused product.

Do not burn the empty vessel or use a cutting torch on it.

Due to the high risk of contamination, recycling/recovery is not recommended.

Follow all warnings even after the container has been emptied.

SECTION 14: Transport information

14.1 UN number

ADR/RID/ADN: UN 3105
IMDG: UN 3105
IATA: UN 3105

14.2 Proper designation of cargo according to UN model regulations

ADR/RID/ADN: ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl Ethyl Ketone Peroxide, <=45%)
IMDG: ORGANIC PEROXIDE TYPE D, LIQUID
(Methyl Ethyl Ketone Peroxide, <=45%)
IATA: Organic peroxide type D, liquid
(Methyl Ethyl Ketone Peroxide, <=45%)

14.3 Transport hazard class(es)

ADR/RID/ADN: 5.2
IMDG: 5.2
IATA: 5.2

14.4 Packing group

ADR/RID/ADN

Packaging group: Not assigned
Classification code: P1
Tags: 5.2
Tunnel restriction code (ADR): (D)
Hazard identification number (RID): 539

IMDG

Packaging group: Not assigned
Tags: 5.2
EmS Code: F-J, S-R

IATA

Packing requirement (freighter): 570
Packing requirement (passenger aircraft): 570
Packaging group: Not assigned
Tags: 5.2 (HEAT)

14.5 Environmental risks

ADR/RID/AND

Environmental hazard: no

IMDG

Marine pollution: no

IATA-DGR

Environmental hazard: no

14.6 Special precautions for the user

Not applicable.

14.7 Transport in bulk in accordance with Annex II to MARPOL 73/78 and the IBC Code

Not applicable to the product as delivered.

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 15 of 17
Print date: 13-2-2025

SECTION 15: Statutory information

15.1 Safety, health and environmental regulations and legislation specific to the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII):

Restrictive conditions should be considered for the following entries:

Number on list 3.

Number on the list: 75. If you plan to use this product as a tattoo ink, contact your supplier.

REACH - List of substances for authorisation of very high concern (Article 59):

Not applicable

Regulation (EE) 2019/1021 on persistent organic pollutants (recast):

Not applicable

REACH - List of substances subject to authorisation (Annex XIV):

Not applicable

Regulation (EC) No 1005/2009 on ozone-depleting substances:

Not applicable

Regulation (EU) No 649/2012 of the European Parliament and of the Council concerning the export and import of dangerous chemicals:

Not applicable

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

P6b: SUBSTANCES AND MIXTURES AND ORGANIC PEROXIDS

Notification status:

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

For an explanation of the 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.

SECTION 16: Other information

Full text of the H statements

H225:	Highly flammable liquid and vapour.
H240:	Heating may cause an explosion.
H242:	Heating may cause fire.
H302:	Harmful if swallowed.
H314:	Causes severe burns and eye damage.
H318:	Causes serious eye damage.
H319:	Causes severe eye irritation.
H332:	Harmful by inhalation.
H336:	May cause drowsiness or dizziness.
EUH066:	Repeated exposure may cause dry or cracked skin.

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 16 of 17
Print date: 13-2-2025

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, Based on product data or assessment
Serious eye damage, 1, H318, Based on product data or assessment

Full text of other abbreviations

Acute Tox.	Acute toxicity
Eye Dam.	Severe eye damage/eye irritation.
Eye Irrit.	Severe eye damage/eye irritation.
Flam. Liq.	Flammable liquid.
Org. Perox.	Organic peroxides.
Skin Corr.	Corrosion / skin irritation.
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 limits.
2017/164/EU:	Europe. Commission Directive 2017/164/EU establishing a fourth list of indicative occupational exposure limit values.
ACGIH:	US. ACGIH Threshold Limit Values (TLV)
BE OEL:	Belgium. Occupational exposure limits
2000/39/EG TWA:	Limit value - 8 hours
2000/39/EC SET:	Limit value for short-term exposure
2006/15/EG TWA:	Limit value - 8 hours
2017/164/EU SET:	Limit value for short-term exposure
2017/164/EU TWA:	Limit value - 8 hours
ACGIH/TWA:	8-hour, time-weighted average
ACGIH/STEL:	Short-term exposure limit
ACGIH/C:	Ceiling limit
BE OEL / TLV 8 hours:	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 (ADR Agreement); AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body Weight; CLP - Regulation on Classification, Labelling and Packaging; Regulation (EC) no. 1272/2008; CMR - carcinogenic, mutagenic or toxic to reproduction; DIN - standard of the German Institute for Standardisation; DSL - list of indoor substances (Canada); ECHA - European Chemicals Agency; EC number - EINECS number; ECx - concentration associated with x% response; ELx - loading capacity associated with x% response; EmS - emergency plan; ENCS - existing and new chemicals (Japan); ErCx - concentration associated with x% growth response; GHS - Globally Harmonised System; GLP - good laboratory practices; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - IMO International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk; IC50 - half-maximum inhibitory concentration; ICAO - International Civil Aviation Organisation; IECSC - Inventory List of Existing Chemicals in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korean Inventory of Existing Chemicals; LC50 - Lethal concentration for 50% of a test population; LD50 - Lethal dose for 50% of a test population (lethal dose median); MARPOL - International Convention for the Prevention of Pollution from Ships; n.O.S. - Not mentioned elsewhere; NO(A)EC - No observable (negative) effect on concentration; NO(A)EL - No observable (negative) effect on level; NOELR - No observable effect on loading capacity; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Cooperation and

According to directive 1907/2006/EC, 2020/878
Version 3.2 Revision date: 03-12-2024
Trade name: MEK peroxide Butanox M-50

Page: 17 of 17
Print date: 13-2-2025

Development OECD; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - persistent, bioaccumulative and toxic substance; PICCS - Philippine Inventory of Chemical Substances and Chemicals; (Q)SAR - (Quantitative) Structure-Activity Relationships; REACH - Regulation (EC) no. 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH); 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 - Taiwanese Inventory of Chemical Substances; TRGS - Technical Regulations on Hazardous Substances; TSCA - Toxic Substances Control Act (US); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Training recommendations:

Provide proper information, instruction and training for users.

This fact sheet contains changes from the previous version in section(s):

- ✓ Identification of hazards
- ✓ Composition and information on ingredients
- ✓ Toxicological information
- ✓ Ecological information

The information in this safety data sheet is correct to the best of our knowledge at the date of issue indicated. This information is intended only as guidance for the safe handling, use, processing, storage, transport, disposal and release of the substance and should not be considered a warranty or quality statement. The information relates only to the product mentioned herein and is not valid for use in combination with other products or in any other process, unless stated in the text.