# CETOX-30OE

Date of update: June 23, 2017 Version: 3.1/EN

## Section 1: Identification of the substance/mixture and of the company.

### 1.1 Product identifier

Trade name: **CETOX-30OE**
Contains: ethyl acetate

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

Relevant identified uses: Polymerization initiator.
Uses advised against: not determined.

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

**Oxytop Sp. z o.o.**
**Antoninek 2**
**62-060 Stęszew**
T/F: +48 61 898 53 00, - 01
E-mail address for a competent person responsible for sds: biuro@theta-doradztwo.pl, dokumentacja@oxytop.pl

### 1.4 Emergency telephone number

112 (emergency telephone number)

## Section 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Org. Perox. D H242, Flam. Liq. 2 H225, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335, STOT SE 3 H336**

Heating may cause a fire. Highly flammable liquid and vapour. Causes severe skin burns and eye damage. Causes serious eye damage. May cause respiratory irritation. May cause drowsiness or dizziness.

### 2.2 Label elements

Signal words: **DANGER**

Hazard pictograms:

Hazard statements:
**H242** Heating may cause a fire.
**H225** Highly flammable liquid and vapour.
**H314** Causes severe skin burns and eye damage.
**H335** May cause respiratory irritation.
**H336** May cause drowsiness or dizziness.
Precautionary statements:
**P102** Keep out of reach of children.
**P210** Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
**P280** Wear protective gloves/protective clothing/eye protection/face protection.
**P303+P361+P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

**P304+P340** IF INHALED: Remove person to fresh air and keep comfortable for breathing.
**P305+P351+P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

Not found.

## Section 3: Composition/information on ingredients

3.2 Mixture

| Component name | Identifier | Classification [CLP] | Concentration [%] weight |
|---|---|---|---|
| CYCLOHEXANONE PEROXIDE | CAS: 12262-58-7<br>WE: 235-527-7 | Org. Perox. C; H242<br>Acute Tox. 4; H302<br>Skin Corr. 1B; H314<br>STOT SE 3; H335 | 10-15 |
| DIACETONE ALCOHOL | CAS: 123-42-2<br>WE: 204-626-7<br>REACH: 01-2119473975-21-xxxx | Eye Irrit.2; H319<br>STOT SE 3; H335<br>Flam. Liq. 3; H226 | 18-23 |
| ETHYL ACETATE | CAS: 141-78-6<br>WE: 205-500-4<br>REACH: 01-2119475103-46-xxxx | Flam. Liq. 2; H225<br>Eye Irrit. 2; H319<br>STOT SE 3; H336<br>EUH066 | 35-40 |
| DIMETHYL PHTHALATE | CAS: 131-11-3<br>WE: 205-011-6<br>REACH: 01-2119437229-36-xxxx | No classification | 15-20 |

## Section 4: First aid measures

4.1 Description of first aid measures

Skin contact: Take off contaminated clothing. Wash the contaminated skin thoroughly with plenty of water. Do not use solvents and solutions. Wear sterile dressing. Immediately consult a doctor.
Eye contact: Wash the contaminated eye with plenty of water for 10-15 minutes. Protect the non-irritated eye, remove contact lenses. Avoid powerful water stream – risk of cornea damage. Wear sterile dressing. Immediately consult a doctor.
Ingestion: Do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a doctor immediately, show the container or label.
Inhalation: Move the victim to fresh air. Keep victim warm and calm. Consult a doctor if disturbing symptoms appear.

4.2 Most import ant symptoms and effects, both acute and delayed

Eye contact: may cause irritation, redness, pain, vision dificulties, corneal damage, serious eye damage.
Skin contact: may cause irritation, redness, skin burns.
Ingestion: ulcers, burns, risk of perforation of the upper digestive tract can occur.
Inhalation: headaches and dizziness, respiratory tract irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Physician makes a decision regarding further medical treatment after thoroughly examination of the injured. Symptomatic treatment.

## Section 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: dispersed water, carbon dioxide, extinguishing powders, extinguishing foam, sand.
Unsuitable extinguishing media: halons, water jet – risk of the propagation of the flame.

5.2 Special hazards arising from the substance or mixture

WARNING: re-ignition may occur. They may form explosive mixtures of vapors with air.
Water spray can be ineffective unless used by experienced firefighters. Heating may cause decomposition of toxic fumes. Prevent fire-fighting water from entering the water mains or drains.

Combustion products: The fire produces smoke containing hazardous combustion products (see section 10).

5.3 Advice for firefighters

Firefighters protective equipment: Fireproof, full protective equipment.
Apparatuses insulating the airways with independent air supply.
Use standard methods to extinguish chemical fires. Evacuate employees. Small fire extinguish with powder or carbon dioxide, then use water to prevent re-inflammation. Containers exposed to high temperatures cool down with water and if possible remove from the affected area.
Water used to extinguish fire should not be allowed to enter drains or watercourses.

## Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Limit the access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. Ensure that only the trained personnel removes the effects of the accident. In case of large spills, isolate the exposed area. Avoid skin and eyes contamination. Ensure adequate ventilation. Do not inhale vapours. Remove all ignition sources. Do not smoke. Do not use sparking tools.

6.2 Environmental precautions

In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Notify relevant emergency services.

6.3 Methods and material for containment and cleaning up

Place the damaged container in emergency container. Collect with liquid absorbing materials (e.g. soil, sand). In case of a large leakage, pump it out. Place it in labeled containers for waste. Waste should be ept wet. Clean the contaminated place and ventilate it.

6.4 Reference to other sections

Appropriate conduct with waste product – section 13. Personal protective equipment – see section 8.

## Section 7: Handling and storage

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices. Do not eat, drink or smoke when using the product. Before break and after work wash hands. Avoid contact with skin and eyes. Use personal protection equipment. Ensure adequate ventilation of area, where the product is used. Do not inhale vapours and spray. Remove all ignition sources – do not use open flame, do not smoke, use sparking tools and clothing made with fibers susceptible to static electrification. In the workplace, use only the amount of the product that is absolutely necessary for the job. Keep the unused containers tightly closed. Never mix peroxides directly with accelerators (risk of explosion) – add each component separately to the resin. Do not re-use empty containers.

7.2 Conditions for safe storage, including any incompatibilities

The storage areas must be effectively ventilated. Store only in originally sealed containers properly labeled in a cool (not exceeding 25°C), ventilated area. Protect from sunlight and heat sources. It is forbidden to store peroxides in the same room with other materials. Do not open the storage containers with peroxides, with exceptions of sampling by technical control. Do not store peroxides in damaged containers. Keep away from combustible materials, reducing agents, acids, alkalis and heavy metal compounds such as accelerators, metal soaps. In warehouse do not smoke, eat, use an open flame and sparking devices. In peroxides transport within area of the company, only intrinsically safe and proof devices can be used, specially designed for the transport of such materials. Personal store is a separate room in the building for the production of peroxides, for temporary storage of peroxides used in the current production. Read Material Safety Data Sheet or label.

7.3 Specific end use(s)

No information on other uses than those listed in subsection 1.2.

## Section 8: Exposure controls/personal protection

8.1 Control parameters

**DIACETONE ALCOHOL** (CAS: 123-42-2):

TWA 240 mg/m$^3$

**DNEL**
workers:
Skin contact (long-term effects - systemic effects): 9,4 mg/kg
Inhalation (long-term effects - systemic effects): 66,4 mg/m$^3$
Inhalation (acute - systemic effects): 240 mg/m$^3$
consumers:
Inhalation (acute - local effects): 120 mg/m$^3$
Skin contact (long-term effects - systemic effects): 3,4 mg/kg
Ingestion (long-term - systemic effects): 3,4 mg/kg
Inhalation (long-term effects - systemic effects): 11,8 mg/m$^3$

**ETHYL ACETATE** (CAS: 141-78-6):

TWA 734 mg/m$^3$
STEL 1468 mg/m$^3$

**DNEL**
Oral DNEL (long-term exposure - systemic effects):
4,5 mg/kg bw/d (general population)
Dermal DNEL (long-term exposure - systemic effects):
37 mg/kg bw/d (general population)
63 mg/kg bw/d (worker)
Inhalation DNEL (acute/short-term exposure - local effects):
734 mg/m$^3$ (general population)
1468 mg/m$^3$ (worker)
DNEL (acute / short-term exposure - local effects):
734 mg/m$^3$ (general population)
1468 mg/m$^3$ (worker)
DNEL (long-term exposure - local effects):
367 mg/m$^3$ (general population)
734 mg/m$^3$ (worker)
DNEL (long-term exposure - systemic effects):
367 mg/m$^3$ (general population)
734 mg/m$^3$ (worker)

**PNEC**
Fresh water: 0,26 mg/l
Marine water: 0,026 mg/l
Sediment (fresh water): 1,25 mg/kg
Sediment (marine water): 0,125 mg/kg
0,24 mg/kg (soil)

**DIMETHYL PHTHALATE** (CAS: 131-11-3):

TWA 5 mg/m$^3$
STEL 10 mg/m$^3$

**PNEC**
Fresh water: 0,192 mg/l
Marine water: 0,0192 mg/l
Intermittent release: 0,39 mg/l
Sediment (fresh water): 1,403 mg/kg

Soil: 3,16 mg/kg

**DNEL**
worker:
Long-term – systematic effects, dermal: 100 mg/kg
worker:
Long-term – systematic effects, inhalation: 293,86 mg/m$^3$
user / consumer:
Long-term – systematic effects, dermal: 60 mg/kg
user / consumer:
Long-term – systematic effects, inhalation: 86,96 mg/m$^3$
user / consumer:
Long-term – systematic effects, oral: 25 mg/kg

8.2 Exposure controls

**Respiratory protection:**

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

**Hand protection:**

Chemical resistant gloves (EN 374).
Suitable materials for a short time, possibly as a protection against splashing (recommended minimum protection factor 2, corresponding to> 30 minutes permeation time according to EN 374). Butyl rubber. Due to the large number of types, follow the instructions provided by the manufacturer.
Additional note: data is based on own research, literature data and glove manufacturer information, or derives from analogies to similar materials. It should be taken into consideration that in practice, the wearing time of protective gloves for the chemical industry may be considerably shorter than that determined by the tests due to the influence of many factors such as temperature.

**Eyes protection:**

Safety glasses with side shield (frame goggles) (eg EN 166).

**Body protection:**

Protective measures of the body, depending on the activities and possible effects, eg apron, protective shoes, gas-tight and chemical-resistant protective clothing (according to EN 14605 for liquids or EN ISO 13982 for dusts).

## Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

physical state: liquid
colour: colorless
odour: similar to ethyl acetate
odour threshold: not determined
pH (20°C): slightly acidic
melting point/freezing point: not determined
initial boiling point and boiling range: not determined
flash point: not display
evaporation rate: not determined
flammability (solid, gas): not applicable
upper/lower flammability or explosive limits: not determined
vapour pressure: not determined
vapour density: not determined
density (20°C): 0,997 – 1,002 g/cm$^3$
solubility(ies): partially miscible
partition coefficient: not determined
auto-ignition temperature: not determined
decomposition temperature: not determined

explosive properties: not display
oxidising properties: not display
dynamic viscosity: not determined

9.2 Other information

Active oxygen: 2,8 – 3,0%

## Section 10: Stability and reactivity

10.1 Reactivity

Reactive product. See also subsection 10.4-10.5.

10.2 Chemical stability

The product is stable under normal conditions of use and storage (appropriate stabilizers).

10.3 Possibility of hazardous reactions

Due to the chemically unstable nature of organic peroxides and high reactivity, it is assumed that in contact with organic matter, metals, reducers, etc., the substance is rapidly decomposed.
Hazardous reactions are not known under normal conditions of use.

10.4 Conditions to avoid

It is forbidden to store peroxides in one room with other materials. Avoid direct sunlight, any source of heat.
Store at <25 ° C.

10.5 Incompatible materials

Avoid contact with rust, iron and copper. Contact with incompatible materials such as acids, alkalis, heavy metals and reducing agents will result in hazardous decomposition. Do not mix with accelerators. Use only stainless steel 316, polypropylene, polyethylene or glass.

10.6 Hazardous decomposition products

Hazardous decomposition products include: e.g. cyclohexanone, adipic acid, carbon oxides.

## Section 11: Toxicological information

11.1 Information on toxicological effects

a) Acute toxicity

Calculated data:
ATEmix (oral): >2000 mg/kg

**CYCLOHEXANONE PEROXIDE** (CAS: 12262-58-7):
Acute oral toxicity: LD50 (mouse): 880 mg/kg
Acute inhalation toxicity: LC50 (rat): > 5,0 mg/l (research atmosphere: couple)

**ETHYL ACETATE** (CAS: 141-78-6):
Acute toxicity: LD50 (rabbit): 4935 mg/kg
Acute dermal toxicity: LD50 (rat): 5000 mg/kg
Acute inhalation toxicity: LC50/4h (rat): 1600 mg/l

**DIACETONE ALCOHOL** (CAS: 123-42-2):
Acute oral toxicity:
May be harmful if swallowed: LD50 >2000 - <=5000 mg/kg
Acute dermal toxicity:
Low toxicity: LD50 >5000 mg/kg
Acute inhalation toxicity:
Expected low toxicity by inhalation exposure. High concentrations can cause central nervous system depression, causing headaches, dizziness and nausea.

**DIMETHYL PHTHALATE** (CAS: 131-11-3):
Experimental / calculated data:
LD50 (rat, oral): 8.200 mg/kg
Data from the literature.
Rat (inhalation): > 10,4 mg/l 6 h (IRT)
In animal studies, there was no mortality during exposure.
Data from the literature. Vapours were tested.
LD50 rabbit (dermal): > 12.000 mg/kg
Data from the literature.

b) Skin corrosion/irritation

Mixture is corrosive to the skin.

c) Serious eye damage/irritation

Mixture is corrosive to the eyes - causes serious eye damage.

d) Respiratory or skin sensitisation

Mixture is not sensitizing.

e) Germ cell mutagenicity

Mixture is not classified as mutagenic.

f) Carcinogenicity

Mixture is not carcinogen.

g) Reproductive toxicity

Based on available data, the classification criteria are not met.

h) STOT-single exposure

May cause respiratory irritation.

i) STOT-repeated exposure

Based on available data, the classification criteria are not met.

j) Aspiration hazard

May cause drowsiness or dizziness.

## Section 12: Ecological information

12.1 Toxicity

**DIACETONE ALCOHOL** (CAS: 123-42-2):
*Toxicity to fish:*
LC50: > 100 mg/l (96 h) Oryzias latipes
*Toxicity to daphnia and other aquatic invertebrates:*
EC50: > 1 000 mg/l (48 h) Daphnia magna
*Toxicity to algae:*
ErC50: > 100 mg/l (72 h) Pseudokirchneriella subcapitata
Type of test: growth inhibition
NOEC: > 100 mg/l (72 h) Pseudokirchneriella subcapitata
Type of test: growth inhibition
*Toxicity to bacteria:*
EC50: > 1 000 mg/l (0,5 h) activated sludge
Type of test: release of breathing
*Toxicity to daphnia and other aquatic invertebrates (Chronic Toxicity):*

NOEC: > 100 mg/l (21 d) reproductive capacity, Daphnia magna

**ETHYL ACETATE** (CAS: 141-78-6):
No data available.

**CYCLOHEXANONE PEROXIDE** (CAS: 12262-58-7):
*Toxicity to fish:*
LC50: 48 mg/l
Exposure time: 96 h
Species: Danio rerio (zebra fish)
*Toxicity to bacteria:*
EC50: 11,1 mg/l
Species: activated sludge
Test Type: Respiration inhibition

12.2 Persistence and degradability

The ingredients are easily biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation is not expected.

12.4 Mobility in soil

**DIACETONE ALCOHOL** (CAS: 123-42-2)
If the product penetrates the soil, it will be highly mobile and can contaminate groundwater. Dissolves in water.

**DIMETHYL PHTHALATE** (CAS: 131-11-3)
The substance does not evaporate from the water surface to the atmosphere. Adsorption on solid phase soil particles is not predicted.

12.5 Results of PBT and vPvB assessment

Mixture does not meet the criteria for PBT or vPvB in accordance with Annex XIII of REACH.

12.6 Other adverse effects

Undefined.

## Section 13: Disposal considerations

13.1 Waste treatment methods

Dispose of contents / container to hazardous waste container. Due to the high risk, recovery is not recommended. Dispose of waste and packaging in accordance with the appropriate regulatory authorities for waste management and waste disposal regulations (probably combustion). Empty containers may contain product residues. Follow all warnings, even after emptying the container.

If the product is used in any further operations / processes, the end user should define the resulting waste and assign the appropriate code. Do not empty into drains. Do not allow contamination of surface water and groundwater. Do not store at municipal landfills.

## Section 14: Transport information

14.1 UN number **UN 3105**

14.2 UN proper shipping name **ORGANIC PEROXIDE TYPE D, LIQUID**

14.3 Transport hazard class(es) **5.2**


14.4 Packing group

Not apllicable.

14.5 Environmental hazards

Mixture is not classified as dangerous for environment according to transport regulations.

14.6 Special precautions for user

Avoid heat, hot surfaces, sparks, open flames and other sources of ignition. Do not smoke.

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

Not apllicable.

## Section 15: Regulatory information

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

**Regulation (EC) No 1907/2006** of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC as amended.
**Regulation (EC) No 1272/2008** of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 as amended.
**Commission Regulation (EU) No 2015/80** of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).
**Directive 2008/98/EC** of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.
**European Parliament and Council Directive 94/62/EC** of 20 December 1994 on packaging and packaging waste.

15.2 Chemical safety assessment

A Chemical Safety Assessment wasn't performed.

## Section 16: Other information

Clarification of abbreviations and acronyms

H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H242 Heating may cause a fire.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.

PBT Persistent, Bioaccumulative and Toxic substance
vPvB very Persistent, very Bioaccumulative substance

Trainings
Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training.
People associated with transport of hazardous materials in accordance with ADR should be adequately trained for their job responsibilities (general training, bench and safety).

Key literature references and data sources
Safety data sheet was drawn up on the basis provided by the distributor sheet, literature, online databases (e.g. ECHA, TOXNET, Cosing) as well as knowledge and experience, taking into account the current legislation.

Other data
Modifications: sections 1-16

***This Safety Data Sheet cancels and updates all its previous versions.***

*The information contained herein is based on our current knowledge. The above information is believed to be correct, but may not be sufficient and should be treated only as an aid to safety in transport, distribution, use and storage of the product. The safety data sheet does not relieve you of the knowledge of the rules on the use of the product. The recipient is responsible for safeguards staff and surroundings at the time of use of the mixture. This product should be stored, transported and used in accordance with good industrial hygiene practices and in compliance with all laws.*