

SAFETY DATA SHEET



OXSOFT GPO***
11430

Version / Revision
Supersedes Version

3 .00***
2 .01***

Revision Date
Issuing date

02-Sep-2016
02-Sep-2016

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

1.1. Product identifier

Identification of the
substance/preparation

OXSOFT GPO***

Chemical Name Bis(2-ethylhexyl)-1,4-benzenedicarboxylate
CAS-No 6422-86-2
EC No. 229-176-9
Registration number (REACH) 01-2119446265-39***

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

Identified uses plasticizer
coatings
inks
additive
laboratory chemicals***
Uses advised against None

1.3. Details of the supplier of the safety data sheet

Company/Undertaking Identification **OXEA GmbH**
Otto-Roelen-Str. 3
D-46147 Oberhausen
Germany
Product Information Product Stewardship
FAX: +49 (0)208 693 2053
email: psq@oxea-chemicals.com

1.4. Emergency telephone number

Emergency telephone number +44 (0) 1235 239 670 (UK)
available 24/7***

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Based on present data no classification and labelling is required according to Directive 1272/2008/EC and its amendments (CLP Regulation)

2.2. Label elements

Not required.***

2.3. Other hazards

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None known***

PBT and vPvB assessment This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

SECTION 3: Composition / information on ingredients

3.1. Substances

| Component | CAS-No | REACH-No | 1272/2008/EC | Concentration (%) |
|---|-----------|-------------------------|--------------|-------------------|
| Bis(2-ethylhexyl)-1,4-benzenedicarboxylate*** | 6422-86-2 | 01-2119446265-39** * | - | > 96,0 |

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

Skin

Wash off immediately with soap and plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

Eyes

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Immediate medical attention is required.

Ingestion

Call a physician immediately. Do not induce vomiting without medical advice.

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

Main symptoms

None known.***

Special hazard

None known.***

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

General advice

Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

foam, dry chemical, carbon dioxide (CO₂), water spray

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Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

Under conditions giving incomplete combustion, hazardous gases produced may consist of:

carbon monoxide (CO)

carbon dioxide (CO₂)

Combustion gases of organic materials must in principle be graded as inhalation poisons

Vapours are heavier than air and may spread along floors

5.3. Advice for firefighters

Special protective equipment for firefighters

Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

Precautions for firefighting

Cool containers / tanks with water spray. Dike and collect water used to fight fire. Keep people away from and upwind of fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.

For emergency responders: Personal protection see section 8.***

6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant).

6.3. Methods and material for containment and cleaning up

Methods for containment

Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

Methods for cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

6.4. Reference to other sections

For personal protective equipment see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Advice on safe handling

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.

Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Advice on the protection of the environment

See Section 8: Environmental exposure controls.

Incompatible products

strong acids
strong oxidizing agents

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material.

Technical measures/Storage conditions

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care.

Temperature class

T2***

7.3. Specific end use(s)

plasticizer
coatings
inks
additive
laboratory chemicals***

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Exposure limits European Union

No exposure limits established.

Exposure limits UK

No exposure limits established.

DNEL & PNEC

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate***, CAS: 6422-86-2
Workers

DN(M)EL - long-term exposure - systemic effects - Inhalation

Other toxicological threshold***

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DN(M)EL - long-term exposure - systemic effects - Dermal 6,58*** mg/kg bw/day***

General population ***

DN(M)EL - long-term exposure - systemic effects - Inhalation 6,86*** mg/m³***
DN(M)EL - long-term exposure - systemic effects - Dermal 3,95*** mg/kg bw/day***
DN(M)EL - long-term exposure - systemic effects - Oral 3,95*** mg/kg bw/day***

Environment ***

PNEC aqua - freshwater 0,08*** µg/l***
PNEC aqua - marine water 0,008*** µg/l***
PNEC STP 1*** mg/l***
PNEC sediment - freshwater 8,28*** mg/kg***
PNEC sediment - marine water 0,828*** mg/kg***
PNEC soil 15*** µg/kg***
PNEC oral 52,7*** mg/kg***

8.2. Exposure controls

Special adaptations (REACH)

Not applicable.***

Appropriate Engineering controls

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment

General industrial hygiene practice

Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Eye protection

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.

Equipment should conform to EN 166

Hand protection

Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

| | |
|---------------------------|------------------------------------|
| Suitable material | nitrile rubber |
| Evaluation | according to EN 374: level 6 |
| Glove thickness | approx 0,55 mm |
| Break through time | > 480 min |
| Suitable material | polyvinylchloride / nitrile rubber |
| Evaluation | according to EN 374: level 6 |
| Glove thickness | approx 0,9 mm |
| Break through time | > 480 min |

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Skin and body protection

Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

Environmental exposure controls

If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

Additional advice

Further details on substance data can be found in the registration dossier under the following link:
<http://echa.europa.eu/information-on-chemicals/registered-substances>.***

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | | | | | |
|---------------------------|---|--------------|-----------|-------|-----------|
| Appearance | liquid | | | | |
| Colour | colourless | | | | |
| Odour | slight | | | | |
| Odour threshold | No data available | | | | |
| pH | No data available | | | | |
| Melting point/range | < -67,2 °C @ 1013 hPa*** | | | | |
| Boiling point/range | 375 °C @ 1013 hPa | | | | |
| Flash point | 212 °C @ 1013 hPa*** | | | | |
| Method | ASTM 3278*** | | | | |
| Evaporation rate | No data available | | | | |
| Flammability (solid, gas) | Does not apply, the substance is a liquid | | | | |
| Lower explosion limit | No data available | | | | |
| Upper explosion limit | No data available | | | | |
| Vapour pressure | *** | | | | |
| Values [hPa] | Values [kPa] | Values [atm] | @ °C | @ °F | Method |
| < 0,001*** | < 0,0001*** | < 0,0001*** | 25*** | 77*** | EU A.4*** |
| Vapour density | 13,5 (Air = 1) @ 20 °C (68 °F) | | | | |
| Relative density | *** | | | | |
| Values | @ °C | @ °F | Method | | |
| 0,983 | 20 | 68 | EU A.3*** | | |
| Solubility | 0,4 µg/l @ 22,5 °C, in water*** | | | | |
| log Pow | 5,72 (calculated), OECD 107*** | | | | |
| Autoignition temperature | 387 °C @ 980 hPa*** | | | | |
| Method | EU A.15*** | | | | |
| Decomposition temperature | No data available | | | | |
| Viscosity | 65,8 mPa*s @ 25 °C | | | | |
| Method | dynamic, OECD 114*** | | | | |
| Explosive properties | Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties | | | | |
| Oxidizing properties | Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties | | | | |

9.2. Other information

Molecular weight 390,56
Molecular formula C24 H38 O4

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Conductivity 0,0029 $\mu\text{S/m}$ @ 20 °C***
Refractive index 1,487 @ 20 °C
Surface tension 32,7 mN/m @ 22 °C (71,6 °F), EU A.5***

SECTION 10: Stability and Reactivity

10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.***

10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

10.5. Incompatible materials

strong acids, strong oxidizing agents.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure Ingestion, Eye contact, Skin contact***

| Acute toxicity | | | | |
|---|----------|---------------|------------|--------|
| Bis(2-ethylhexyl)-1,4- benzenedicarboxylate (6422-86-2) | | | | |
| Routes of Exposure | Endpoint | Values | Species | Method |
| Oral | LD50 | > 5000 mg/kg | rat | |
| Dermal | LD50 | > 19670 mg/kg | guinea pig | |

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate***, CAS: 6422-86-2

Assessment

Based on available data, the classification criteria are not met for:

Acute oral toxicity

Acute dermal toxicity

For acute inhalation toxicity, no data are available***

| Irritation and corrosion | | | | |
|---|------------|----------------------|--------|--|
| Bis(2-ethylhexyl)-1,4- benzenedicarboxylate (6422-86-2) | | | | |
| Target Organ Effects | Species | Result | Method | |
| Skin | guinea pig | Mild skin irritation | | |

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| | | | | |
|------|--------|---------------------|--|--|
| Eyes | rabbit | Mild eye irritation | | |
|------|--------|---------------------|--|--|

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate*, CAS: 6422-86-2**

Assessment

Based on available data, the classification criteria are not met for:
skin irritation/corrosion
eye irritation/corrosion***

Sensitization

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate (6422-86-2)

| Target Organ Effects | Species | Evaluation | Method | |
|----------------------|------------|-----------------|--------|--|
| Skin | guinea pig | not sensitizing | | |

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate*, CAS: 6422-86-2**

Assessment

Based on available data, the classification criteria are not met for:
Skin sensitization
For respiratory sensitization, no data are available***

Subacute, subchronic and prolonged toxicity

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate (6422-86-2)

| Type | Dose | Species | Method | |
|---------------------|--------------------------------------|------------------|------------|--|
| Subacute toxicity | NOAEL: 885 mg/kg/d (28d) | rat, male/female | Oral | |
| Subacute toxicity | NOAEC: 46,3 mg/m ³ (10 d) | rat, male/female | Inhalation | |
| Subchronic toxicity | NOAEL: 277 - 309 mg/kg/d (90d) | rat | Oral | |
| Chronic toxicity | NOAEL: 79 - 102 mg/kg/d (104 weeks) | rat | Oral | |

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate*, CAS: 6422-86-2**

Assessment

Based on available data, the classification criteria are not met for:
STOT RE***

Carcinogenicity, Mutagenicity, Reproductive toxicity

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate (6422-86-2)

| Type | Dose | Species | Evaluation | Method | |
|------------------------|--------------------------|-----------------|------------|------------------------------------|------------------------|
| Mutagenicity | | Bacteria | negative | OECD 471 (Ames) | |
| Mutagenicity | | Mammalian cells | negative | OECD 473 (Chromosomal Aberration) | |
| Mutagenicity | | Mammalian cells | negative | OECD 476 (Mammalian Gene Mutation) | |
| Developmental Toxicity | NOAEL 747 mg/kg/d | rat | | OECD 414, Oral | Developmental toxicity |
| Developmental Toxicity | NOAEL 458 mg/kg/d | rat | | OECD 414, Oral | Maternal toxicity |
| Reproductive toxicity | NOAEL 500 - 1000 mg/kg/d | rat | | OECD 416 | Oral |

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Bis(2-ethylhexyl)-1,4- benzenedicarboxylate***, CAS: 6422-86-2

CMR Classification

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B***

Evaluation

In vitro tests did not show mutagenic effects

Did not show reprotoxic effects in animal experiments

In the absence of specific alerts no cancer testing is required***

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate***, CAS: 6422-86-2

Target Organ Systemic Toxicant - Single exposure

Based on available data, the classification criteria are not met for:

STOT SE***

Target Organ Systemic Toxicant - Repeated exposure

Based on available data, the classification criteria are not met for:

STOT RE***

Aspiration toxicity

Due to the viscosity, this product does not present an aspiration hazard***

Note

Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link:

<http://echa.europa.eu/information-on-chemicals/registered-substances>. ***

SECTION 12: Ecological information

12.1. Toxicity

| Acute aquatic toxicity | | | |
|---|---------------|--------------------------|-------------------|
| Bis(2-ethylhexyl)-1,4- benzenedicarboxylate (6422-86-2) | | | |
| Species | Exposure time | Dose | Method |
| Daphnia magna (Water flea) | 48h | NOEC: \geq 0,0014 mg/l | |
| Daphnia magna (Water flea) | 48h | EC50: > 0,0014 mg/l | |
| Pimephales promelas (fathead minnow) | 96h | LC50: > 984 mg/l | |
| Algae | 72h | NOEC: \geq 0,86 mg/l | Growth inhibition |

12.2. Persistence and degradability

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate***, CAS: 6422-86-2

Biodegradation

40,2 % (28 d).

12.3. Bioaccumulative potential

| Bis(2-ethylhexyl)-1,4- benzenedicarboxylate (6422-86-2) | | |
|---|---------|-------------------------|
| Type | Result | Method |
| log Pow*** | 5,72*** | calculated, OECD 107*** |

12.4. Mobility in soil

| Bis(2-ethylhexyl)-1,4- benzenedicarboxylate (6422-86-2) | | |
|---|--------|--------|
| Type | Result | Method |

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| | | |
|--------------------|--------------------------------|-----------|
| Surface tension*** | 32,7 mN/m @ 22 °C (71,6 °F)*** | EU A.5*** |
|--------------------|--------------------------------|-----------|

12.5. Results of PBT and vPvB assessment

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate***, CAS: 6422-86-2

PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor very bioaccumulating (vPvB)

12.6. Other adverse effects

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate***, CAS: 6422-86-2

No data available***

Note

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product Information

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Uncleaned empty packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for reuse.

SECTION 14: Transport information

Section 14.1 - 14.6 ***

ADR/RID

Not restricted

ADN

ADN: Container and Tanker
Not restricted

ICAO-TI / IATA-DGR

Not restricted

IMDG

Not restricted

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code not applicable***

SECTION 15: Regulatory information

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

Regulation 1272/2008, Annex VI

not listed

DI 2012/18/EU (Seveso III) ***

Category not subject***

DI 1999/13/EC (VOC Guideline)

| Component | Status |
|--|----------------|
| Bis(2-ethylhexyl)-1,4- benzenedicarboxylate*** CAS: 6422-86-2 | not subject*** |

International Inventories

Bis(2-ethylhexyl)-1,4- benzenedicarboxylate*, CAS: 6422-86-2**

AICS (AU)
DSL (CA)
IECSC (CN)
EC-No. 2291769 (EU)
ENCS (3)-4053 (JP)
ISHL 4-(7)-1490 (JP)
KECI KE-02197 (KR)
PICCS (PH)
TSCA (US)
NZIoC-NZ May be used as single component chemical
TCSI (TW)***

National regulatory information Great Britain

This classification following EG guidelines is also in accordance with the Chemicals (Hazard Information and Packaging for Supply) Regulation CHIP (as amended).

Releases to air (Pollution Inventory Substances)

not subject

Releases to water (Pollution Inventory Substances)

not subject

Releases to sewer (Pollution Inventory Substances)

not subject

For details and further information please refer to the original regulation

15.2. Chemical safety assessment

The Chemical Safety Report (CSR) has been generated. As this product is not hazardous under REACH, no Exposure Scenarios have been calculated.***

SECTION 16: Other information

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Abbreviations

A table of terms and abbreviations can be found under the following link:
http://echa.europa.eu/documents/10162/13632/information_requirements_r20_en.pdf

Training advice

For effective first-aid, special training / education is needed.

Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on Oxea owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

Further information for the safety data sheet

Changes against the previous version are marked by ***. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the Oxea homepage (www.oxea-chemicals.com).

The annex is not required because the substance is not hazardous under REACH***

Disclaimer

For industrial use only. The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. Oxea makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.

End of Safety Data Sheet