

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision  
Supersedes Version

4 .00\*\*\*  
3 .00\*\*\*

Revision Date  
Issuing date

15-May-2015  
26-May-2015

## SECTION 1: Identification

### 1.1. Product identifier

Identification of the  
substance/preparation

# OXSOFT DOA

Chemical Name  
CAS-No

Diocetyl adipate / Bis-2-ethylhexyl adipate  
103-23-1

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

Use of the Substance /  
Preparation

plasticizer

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

Supplier

**OXEA Corporation**  
1505 West LBJ Freeway, Suite 400  
Dallas, TX 75234  
USA  
Phone: +1 972 481 2700

**Distributed by:**  
**SAL Chemical**  
3036 Birch Drive,  
Weirton, WV 26062  
304.748.8200 - Phone  
304.797.8751 - Fax

Product Information

Product Stewardship  
FAX: +49 (0)208 693 2053  
email: psq@oxea-chemicals.com

### 1.4. Emergency telephone number

Emergency telephone number

in USA, call 800 424 9300  
outside USA, call 703 527 3887, collect calls accepted  
available 24/7\*\*\*

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

This substance is not hazardous in accordance with paragraph (d) of §1910.1200 (GHS-US classification).\*\*\*

OSHA Specified Hazards

Not applicable.

### 2.2. Label elements

Not required according to §1910.1200 (GHS-US labeling).\*\*\*

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

## 2.3. Other hazards

None known

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

\*\*\*

Component	CAS-No	Concentration (%)
Bis(2-ethylhexyl) adipate	103-23-1	> 95

## 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.

#### Eyes

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

#### Skin

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

#### 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

diarrhea.

### 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 (CO<sub>2</sub>), water spray

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

## Extinguishing media which must not be used for safety reasons

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 (CO<sub>2</sub>)

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

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

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

## 7.1. Precautions for safe handling

### 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 oxidizing agents  
strong acids

## 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.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Exposure limits United States of America

No exposure limits established regarding ACGIH, OSHA Z-1 and OSHA Z-2.\*\*\*

### 8.2. Exposure controls

#### 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.

#### Individual protection measures, such as 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.

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

## 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.

## 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.

<b>Suitable material</b>	nitrile rubber
<b>Reference substance</b>	Di-(2-ethylhexyl)-phthalate
<b>Evaluation</b>	according to EN 374: level 6
<b>Glove thickness</b>	approx 0,55 mm
<b>Break through time</b>	> 480 min

<b>Suitable material</b>	polyvinylchloride
<b>Reference substance</b>	Di-(2-ethylhexyl)-phthalate
<b>Evaluation</b>	Information derived from practical experience
<b>Glove thickness</b>	approx 0,8 mm

## Skin and body protection

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

## Respiratory protection

Based on workplace contaminant levels and working limits of the respirator, use a respirator approved by NIOSH.

## 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.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

<b>Appearance</b>	liquid
<b>Colour</b>	colourless
<b>Odour</b>	odourless
<b>Odour threshold</b>	No data available
<b>pH</b>	No data available
<b>Melting point/range</b>	-90 °F (-68 °C)
<b>Boiling point/range</b>	783 °F (417 °C) @ 1 atm (101,3 kPa)
<b>Flash point</b>	385 °F (196 °C)
<b>Method</b>	closed cup
<b>Evaporation rate</b>	No data available

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision

4 .00\*\*\*

**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 Values Values @ °C @ °F Method  
[hPa] [kPa] [atm]  
< 0,01 < 0,001 < 0,001 20 68  
**Vapour density** 12,8 (Air = 1) @ 20 °C (68 °F)

**Relative density** \*\*\*  
Values @ °C @ °F Method  
0,925 20 68

**Solubility** No data available  
**Water solubility** < 0,001 g/l @ 72 °F (22 °C)  
**log Pow** 8,94 (measured) OECD 117  
**Autoignition temperature** 710 °F (377 °C)  
**Decomposition temperature** No data available  
**Viscosity** 13,7 mPa\*s @ 68 °F (20 °C)  
**Method** dynamic

## 9.2. Other information

**Molecular weight** 370,57  
**Molecular formula** C22 H42 O4  
**Oxidizing properties** Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties  
**Conductivity** 0,01 µS/m @ 68 °F (20 °C)\*\*\*  
**Refractive Index** 1,447 @ 68 °F (20 °C)  
**Explosive properties** Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties

## 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.

**Emergency telephone number**  
6 / 12

in USA, call 800 424 9300; outside USA, call USA 703 527 3887, collect calls accepted  
USA (A-US)

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

## 10.5. Incompatible materials

strong oxidizing agents, strong acids.

## 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** Eye contact, Skin contact, Ingestion\*\*\*

#### **Bis(2-ethylhexyl) adipate, CAS: 103-23-1**

##### **Main symptoms**

diarrhoea.

##### **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\*\*\*

<b>Acute toxicity</b>				
<b>Bis(2-ethylhexyl) adipate (103-23-1)</b>				
Routes of Exposure	Endpoint	Values	Species	Method
Oral	LD50	45000 mg/kg	rat, male	OECD 401
Oral	LD50	24600 mg/kg	rat, female	OECD 401
Inhalative	LC50	> 5,7 mg/l (4h)	rat, male/female	OECD 403, in vivo, aerosol

#### **Bis(2-ethylhexyl) adipate, CAS: 103-23-1**

##### **Assessment**

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

Acute oral toxicity

Acute dermal toxicity

Acute inhalation toxicity\*\*\*

<b>Irritation and corrosion</b>				
<b>Bis(2-ethylhexyl) adipate (103-23-1)</b>				
Target Organ Effects	Species	Result	Method	
Skin	rabbit	No skin irritation	OECD 404	read across
Eyes	rabbit	Mild eye irritation	OECD 405	read across

#### **Bis(2-ethylhexyl) adipate, CAS: 103-23-1**

**Emergency telephone number**  
7 / 12

in USA, call 800 424 9300; outside USA, call USA 703 527 3887, collect calls accepted  
USA (A-US)

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

## Assessment

Based on available data, the classification criteria are not met for:  
skin irritation/corrosion  
eye irritation/corrosion  
For respiratory irritation, no data are available\*\*\*

Sensitization				
Bis(2-ethylhexyl) adipate (103-23-1)				
Target Organ Effects	Species	Evaluation	Method	
Skin		not sensitizing	QSAR	

## Bis(2-ethylhexyl) adipate, CAS: 103-23-1

### Assessment

Based on available data, the classification criteria are not met for:  
Skin sensitization\*\*\*

Subacute, subchronic and prolonged toxicity				
Bis(2-ethylhexyl) adipate (103-23-1)				
Type	Dose	Species	Method	
Subchronic toxicity	NOAEL: 595 mg/kg/d (91d)	rat, male/female	OECD 408	Oral

## Bis(2-ethylhexyl) adipate, CAS: 103-23-1

### Assessment

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

Carcinogenicity, Mutagenicity, Reproductive toxicity					
Bis(2-ethylhexyl) adipate (103-23-1)					
Type	Dose	Species	Evaluation	Method	
Mutagenicity		Salmonella typhimurium	negative	OECD 471 (Ames)	In vitro study
Mutagenicity		CHO (Chinese Hamster Ovary) cells	negative	Chromosomal Aberration	In vitro study
Mutagenicity		mouse lymphoma cells	negative	Cytogenetic	In vitro study
Mutagenicity		mouse	negative	Chromosomal Aberration	Bone marrow
Carcinogenicity	LOAEC: 12000 ppm	mouse		OECD 451, Oral	
Carcinogenicity	NOAEL: > 25000 ppm	rat, male/female		OECD 451, Oral	
Reproductive toxicity	NOAEL 170 mg/kg/d	rat, parental		OECD 415	
Reproductive toxicity	NOAEL 170 mg/kg/d	rat, 1. Generation, male/female		OECD 415	
Developmental Toxicity	NOAEL ~ 170 mg/kg/d	rat		OECD 414, Oral	Maternal toxicity

Emergency telephone number  
8 / 12

in USA, call 800 424 9300; outside USA, call USA 703 527 3887, collect calls accepted  
USA (A-US)



# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

Developmental Toxicity	NOEL 28 mg/kg/d   rat		OECD 414, Oral	Fetal toxicity
------------------------	-----------------------	--	----------------	----------------

## **Bis(2-ethylhexyl) adipate, CAS: 103-23-1**

### **CMR Classification**

IARC: class 3 - Not classifiable for human carcinogenicity

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

### **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://apps.echa.europa.eu/registered/registered-sub.aspx>.

## **SECTION 12: Ecological information**

### **12.1. Toxicity**

<b>Acute aquatic toxicity</b>			
<b>Bis(2-ethylhexyl) adipate (103-23-1)</b>			
Species	Exposure time	Dose	Method
Oncorhynchus mykiss (rainbow trout)	96h	LC0: > 0,78 mg/l	EPA 6613-75-009
Daphnia magna (Water flea)	48h	EC50: > 500 mg/l	79/831/EEC.C2
Scenedesmus subspicatus	72h	EC50: > 500 mg/l (Biomass)	DIN 38412, part 9
Activated sludge (bacteriae)	3 h	EC50: > 350 mg/l	87/302/EEC

### **Long term toxicity**

#### **Bis(2-ethylhexyl) adipate (103-23-1)**

Type	Species	Dose	Method	
Reproductive toxicity	Daphnia magna (Water flea)	NOEC: > 0,77 mg/l	OECD 211	21 d

### **12.2. Persistence and degradability**

#### **Bis(2-ethylhexyl) adipate, CAS: 103-23-1**

##### **Biodegradation**

90 - 100 % (28 d), activated sludge (domestic), aerobic, non-adapted, OECD 301 F, Readily biodegradable.

### **12.3. Bioaccumulative potential**

#### **Bis(2-ethylhexyl) adipate, CAS: 103-23-1**

##### **Bioaccumulative potential**

250 µg/l BCF: 27

Lepomis macrochirus

log Pow

8,94 (measured) OECD 117

### **12.4. Mobility in soil**

Emergency telephone number  
9 / 12

in USA, call 800 424 9300; outside USA, call USA 703 527 3887, collect calls accepted  
USA (A-US)

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

## Bis(2-ethylhexyl) adipate, CAS: 103-23-1

No data available\*\*\*

### 12.5 Other adverse effects

## Bis(2-ethylhexyl) adipate, CAS: 103-23-1

No data available\*\*\*

#### Note

Avoid release to the environment.

## SECTION 13: Disposal considerations

### 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 \*\*\*

D.O.T. (49CFR) Not restricted

ICAO/IATA Not restricted

IMDG Not restricted

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code not applicable\*\*\*

## SECTION 15: Regulatory information

### Federal and State Regulations

Components of the product are listed in the quoted regulations. For details please refer to the regulations directly. This list is not exhaustive, please check for other applicable regulations.

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

## Federal Regulations

This product is listed on the TSCA inventory

## State Regulations

### Bis(2-ethylhexyl) adipate, CAS: 103-23-1

CA Hazardous Substances (Director's) List\*\*\*

MA RTK List\*\*\*

PA RTK List\*\*\*

## International Inventories

### Bis(2-ethylhexyl) adipate, CAS: 103-23-1

AICS (AU)

DSL (CA)

IECSC (CN)

EC-No. 2030901 (EU)

ENCS (2)-861 (JP)

ENCS (2)-879 (JP)

ISHL (2)-861 (JP)

ISHL (2)-879 (JP)

KECI KE-18680 (KR)

INSQ (MX)\*\*\*

PICCS (PH)

TSCA (US)

NZIoC (NZ)

TCSI (TW)\*\*\*

## SECTION 16: Other information

Revision Date 15-May-2015

Issuing date 26-May-2015

## Hazard Rating Systems

### NFPA (National Fire Protection Association)

Health Hazard 0

Fire Hazard 1

Reactivity 0

### HMIS (Hazardous Material Information System)

Health Hazard 0

Flammability 1

Physical Hazard 0

## Training advice

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

# SAFETY DATA SHEET



OXSOFT DOA  
11360

Version / Revision 4 .00\*\*\*

---

## 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 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](http://www.oxea-chemicals.com)).

## 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**