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

1.1. Product identifier

Identification of the substance/preparation  n-Valeric acid

Chemical Name  Valeric acid
CAS-No  109-52-4
EC No.  203-677-2
Registration number (REACH)  01-2119448010-56

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

Identified uses  Transported isolated intermediate (1907/2006)
Uses advised against  None

1.3. Details of the supplier of the safety data sheet

Company/Undertaking  OXEA GmbH
Identification  Rheinpromenade 4A
D-40789 Monheim
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

This substance is classified based on Directive 1272/2008/EC and its amendments (CLP Regulation)

Skin corrosion/irritation  Category 1B, H314
Serious eye damage/eye irritation  Category 1, H318
Environmental hazard  Aquatic Chronic 3; H412

Additional information
For full text of Hazard- and EU Hazard-statements see SECTION 16.

2.2. Label elements

Labelling according to Regulation 1272/2008/EC and its amendments (CLP Regulation).
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Hazard pictograms

Signal word Danger

Hazard statements
H314: Causes severe skin burns and eye damage.
H412: Harmful to aquatic life with long lasting effects.

Precautionary statements
P273: Avoid release to the environment.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310: Immediately call a POISON CENTER/doctor.

2.3. Other hazards
Components of the product may be absorbed into the body by inhalation and ingestion
Vapour/air-mixtures are explosive at intense warming

PBT and vPvB assessment Not required

SECTION 3: Composition / information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>REACH-No</th>
<th>1272/2008/EC</th>
<th>Concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valeric acid</td>
<td>109-52-4</td>
<td>01-2119448010-56</td>
<td>Skin Corr. 1B; H314 Eye Dam. 1; H318 Aquatic Chronic 3; H412</td>
<td>&gt; 98,50</td>
</tr>
</tbody>
</table>

For full text of Hazard- and EU Hazard-statements see SECTION 16.

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.
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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
central nervous system depression, unconsciousness, shortness of breath, vomiting.

Special hazard
Lung irritation, Lung oedema.

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. If ingested, flush stomach and compensate acidosis.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media
foam, dry chemical, carbon dioxide (CO2), water spray

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
Vapour/air-mixtures are explosive at intense warming

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
Keep people away from and upwind of fire. Cool containers / tanks with water spray. Water run-off and vapor cloud may be corrosive. Water run-off can cause environmental damage. Dike and collect water used to fight 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). Water runoff can cause environmental damage.

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

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
bases
amines
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. Vapour/air-mixtures are explosive at intense warming.

Technical measures/Storage conditions
Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Keep at
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temperatures between 0 and 54 °C (32 and 130 °F).

Suitable material
stainless steel

Unsuitable material
copper, nickel

Temperature class
T2

7.3. Specific end use(s)
Transported isolated intermediate (1907/2006)

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
This substance is registered as intermediate under strictly controlled conditions.

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Workers
No data available***

General population
No data available***

Environment
No data available***

8.2. Exposure controls

Special adaptations (REACH)
The substance has been registered as an transported isolated intermediate and must be handled throughout its life cycle under strictly controlled conditions in accordance with Article 18.4, REACH.

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.

<table>
<thead>
<tr>
<th>Suitable material</th>
<th>nitrile rubber</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td>according to EN 374: level 6</td>
</tr>
<tr>
<td>Glove thickness</td>
<td>approx 0,55 mm</td>
</tr>
<tr>
<td>Break through time</td>
<td>&gt; 480 min</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suitable material</th>
<th>polyvinylchloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluation</td>
<td>Information derived from practical experience</td>
</tr>
<tr>
<td>Glove thickness</td>
<td>approx 0,8 mm</td>
</tr>
</tbody>
</table>

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

Respiratory protection
Respirator with A filter. Full mask with above mentioned filter according to producers using requirements or self-contained breathing apparatus. Equipment should conform to EN 136 or EN 140 and EN 143.

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>liquid @ 20 °C (68 °F)</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless</td>
</tr>
<tr>
<td>Odour</td>
<td>unpleasant</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>3.3 (10 g/l in water @ 25 °C (77 °F)) DIN 19268</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>(Pour point) -35 °C</td>
</tr>
</tbody>
</table>
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Method
Boiling point/range 186 °C @ 1013 hPa
Flash point 89 °C
Evaporation rate No data available
Flammability (solid, gas) Does not apply, the substance is a liquid
Lower explosion limit 1,6 Vol %
Upper explosion limit 7,3 Vol %

Vapour pressure

<table>
<thead>
<tr>
<th>Values [hPa]</th>
<th>Values [kPa]</th>
<th>Values [atm]</th>
<th>@ °C</th>
<th>@ °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,2</td>
<td>0,02</td>
<td>&lt; 0,001</td>
<td>20</td>
<td>68</td>
</tr>
<tr>
<td>2,3</td>
<td>0,23</td>
<td>0,002</td>
<td>50</td>
<td>122</td>
</tr>
</tbody>
</table>

Vapour density 3,5 (Air = 1) @ 20 °C (68 °F)

Relative density

<table>
<thead>
<tr>
<th>Values</th>
<th>@ °C</th>
<th>@ °F</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,94</td>
<td>20</td>
<td>68</td>
</tr>
</tbody>
</table>

Solubility 37,5 g/l @ 20 °C, in water, OECD 105
log Pow 1,8 (measured), OECD 117
Autoignition temperature 410 °C

Decomposition temperature No data available
Viscosity 2,173 mPa*s @ 20 °C

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

Molecular weight 102,13
Molecular formula C5 H10 O2
Refractive index 1,408 @ 20 °C
Surface tension 51,6 mN/m (1 g/l @ 20°C (68°F)), OECD 115

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
bases, amines, 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, Inhalation, Eye contact, Skin contact

### Acute toxicity

**Valeric acid (109-52-4)**

<table>
<thead>
<tr>
<th>Routes of Exposure</th>
<th>Endpoint</th>
<th>Values</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50</td>
<td>4600 mg/kg</td>
<td>rat, male/female</td>
<td>OECD 401</td>
</tr>
<tr>
<td>Dermal</td>
<td>LD50</td>
<td>&gt; 2000 mg/kg (24 h)</td>
<td>rat, male/female</td>
<td>OECD 402</td>
</tr>
</tbody>
</table>

**Valeric acid, CAS: 109-52-4**

Assessment

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

- Acute oral toxicity
- Acute dermal toxicity

STOT SE

An LC50/inhalation/4h/rat could not be determined because no mortality of rats was observed at the maximum achievable concentration

### Irritation and corrosion

**Valeric acid (109-52-4)**

<table>
<thead>
<tr>
<th>Organ Effects</th>
<th>Species</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin</td>
<td>rabbit</td>
<td>corrosive</td>
<td></td>
</tr>
<tr>
<td>Eyes</td>
<td>rabbit</td>
<td>corrosive</td>
<td>3 min</td>
</tr>
</tbody>
</table>

**Valeric acid, CAS: 109-52-4**

Assessment

The available data lead to the classification given in section 2

For respiratory irritation, no data are available

### Subacute, subchronic and prolonged toxicity

**Valeric acid (109-52-4)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Dose</th>
<th>Species</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>no data available</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Valeric acid, CAS: 109-52-4

Assessment
Due to lack of data, a classification is not possible for:
STOT RE

### Carcinogenicity, Mutagenicity, Reproductive toxicity

**Valeric acid (109-52-4)**

<table>
<thead>
<tr>
<th>Type</th>
<th>Dose</th>
<th>Species</th>
<th>Evaluation</th>
<th>Method</th>
<th>Developmental toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developmental Toxicity</td>
<td>NOAEL 50 mg/kg/d</td>
<td>rat</td>
<td></td>
<td>OECD 414, Oral</td>
<td>Developmental toxicity</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td></td>
<td>Salmonella typhimurium</td>
<td>negative</td>
<td>OECD 471 (Ames)</td>
<td>In vitro study</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td></td>
<td>CHO (Chinese Hamster Ovary) cells</td>
<td>positive</td>
<td>OECD 473 (Chromosomal Aberration)</td>
<td>In vitro study</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td></td>
<td>CHO (Chinese Hamster Ovary) cells</td>
<td>positive</td>
<td>OECD 479 (SCE)</td>
<td>In vitro study</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td></td>
<td>CHO (Chinese Hamster Ovary) cells</td>
<td>negative</td>
<td>OECD 476 (Mammalian Gene Mutation)</td>
<td>In vitro study</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td></td>
<td>mouse</td>
<td>negative</td>
<td>OECD 474 (in vivo)</td>
<td></td>
</tr>
</tbody>
</table>

**Valeric acid, CAS: 109-52-4**

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

**Valeric acid, CAS: 109-52-4**

Main symptoms
central nervous system depression, unconsciousness, shortness of breath, vomiting.

**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**

Due to lack of data, a classification is not possible for:
STOT RE

**Aspiration toxicity**

no data available

**Other adverse effects**

Components of the product may be absorbed into the body by inhalation and ingestion.

**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:

### SECTION 12: Ecological information

#### 12.1. Toxicity

**Acute aquatic toxicity**
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<table>
<thead>
<tr>
<th>Species</th>
<th>Exposure time</th>
<th>Dose</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daphnia magna (Water flea)</td>
<td>48h</td>
<td>LC50: 88.1 mg/l</td>
<td>OECD 202 read across</td>
</tr>
<tr>
<td>Pseudokirchneriella subcapitata</td>
<td>72h</td>
<td>EC50: 29.3 mg/l</td>
<td>OECD 201</td>
</tr>
<tr>
<td>Pimephales promelas (fathead minnow)</td>
<td>96h</td>
<td>LC50: 39 mg/l</td>
<td>OECD 203</td>
</tr>
</tbody>
</table>

Long term toxicity

Valeric acid (109-52-4)

<table>
<thead>
<tr>
<th>Type</th>
<th>Species</th>
<th>Dose</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic toxicity</td>
<td>Pseudokirchneriella subcapitata</td>
<td>NOAEC: 12.6 mg/l (3d)</td>
<td>OECD 201</td>
</tr>
</tbody>
</table>

12.2. Persistence and degradability

Valeric acid, CAS: 109-52-4

Biodegradation
72% (10 d), activated sludge, non-adapted, aerobic.

Abiotic Degradation

Valeric acid (109-52-4)

<table>
<thead>
<tr>
<th>Type</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrolysis</td>
<td>not expected</td>
<td></td>
</tr>
<tr>
<td>Photolysis</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative potential

Valeric acid (109-52-4)

<table>
<thead>
<tr>
<th>Type</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>log Pow</td>
<td>1.8</td>
<td>measured, OECD 117</td>
</tr>
</tbody>
</table>

12.4. Mobility in soil

Valeric acid (109-52-4)

<table>
<thead>
<tr>
<th>Type</th>
<th>Result</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface tension</td>
<td>51.6 mN/m (1 g/l @ 20°C (68°F))</td>
<td>OECD 115</td>
</tr>
<tr>
<td>Adsorption/Desorption</td>
<td>no data available</td>
<td></td>
</tr>
<tr>
<td>Distribution to environmental compartments</td>
<td>no data available</td>
<td></td>
</tr>
</tbody>
</table>

12.5. Results of PBT and vPvB assessment

Valeric acid, CAS: 109-52-4

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

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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.
Hazardous waste according to European Waste Catalogue (EWC)

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

ADR/RID

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group
14.5. Environmental hazards
14.6. Special precautions for user

ADR Tunnel restriction code (E)
Classification Code C3
Hazard Number 80

ADN

14.1. UN number
14.2. UN proper shipping name
14.3. Transport hazard class(es)
14.4. Packing group
14.5. Environmental hazards
14.6. Special precautions for user

Classification Code C3
Hazard Number 80

ADN Container

ADN Tanker

UN 3265
Corrosive liquid, acidic, organic, n.o.s.  (n-Valeric acid)
8
II
no

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Subsidiary Risk N3
14.4. Packing group II
14.5. Environmental hazards no
14.6. Special precautions for user Classification Code C3

ICAO-TI / IATA-DGR

14.1. UN number UN 3265
14.2. UN proper shipping name Corrosive liquid, acidic, organic, n.o.s. (n-Valeric acid)
14.3. Transport hazard class(es) 8
14.4. Packing group II
14.5. Environmental hazards no
14.6. Special precautions for user no data available

IMDG

14.1. UN number UN 3265
14.2. UN proper shipping name Corrosive liquid, acidic, organic, n.o.s. (n-Valeric acid)
14.3. Transport hazard class(es) 8
14.4. Packing group II
14.5. Environmental hazards no
14.6. Special precautions for user EmS F-A, S-B
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Product name Pentanoic acid
Ship type 3
Pollution category Y

SECTION 15: Regulatory information

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

Regulation 1272/2008, Annex VI

Valeric acid, CAS: 109-52-4

Classification Skin Corr. 1B; H314
Aquatic Chronic 3; H412

Hazard pictograms GHS05 Corrosion
Signal word Danger
Hazard statements H314, H412

DI 2012/18/EU (Seveso III)
Category not subject

DI 1999/13/EC (VOC Guideline)

Component Status
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<table>
<thead>
<tr>
<th>Valeric acid</th>
<th>regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS: 109-52-4</td>
<td></td>
</tr>
</tbody>
</table>

International Inventories

Valeric acid, CAS: 109-52-4
AICS (AU)***
DSL (CA)***
IECSC (CN)***
EC-No. 2036772 (EU)***
ENCS (2)-608 (JP)***
ISHL (2)-608 (JP)***
KECI KE-35263 (KR)***
INSQ (MX)***
PICCS (PH)***
TSCA (US)***
NZIoC (NZ)***
TCSI (TW)***

National regulatory information Great Britain

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) is not required.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.
H412: Harmful to aquatic life with long lasting effects.

Abbreviations
A table of terms and abbreviations can be found under the following link:

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 registered as an intermediate under REACH

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End of Safety Data Sheet