

## Safety data sheet according to 1907/2006/EC, Article 31

Printing date 30.03.2020

Version number 4

Revision: 30.03.2020

### 1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** AE.002 HARDENER
- **Article number:** AE.002
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Lusid Technologies  
5195 West 4700 South  
KEARNS, UT 84118  
USA  
[www.lusidtechnologies.com](http://www.lusidtechnologies.com)
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
Emergency US – 1-800-535-5053 Outside US - +1-352-323-3500 InfoTrac Contract 89244

### 2 Hazards identification

- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

EU

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 30.03.2020

Version number 4

Revision: 30.03.2020

Trade name: AE.002 HARDENER

(Contd. of page 1)

### Hazard pictograms



GHS02 GHS08

### Signal word Danger

### Hazard-determining components of labelling:

poly(hexamethylene diisocyanate)

### Hazard statements

H226 Flammable liquid and vapour.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

### Precautionary statements

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 Use explosion-proof [electrical/ventilating/lighting] equipment.

P284 [In case of inadequate ventilation] wear respiratory protection.

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.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

### Other hazards

### Results of PBT and vPvB assessment

- PBT: Not applicable.

- vPvB: Not applicable.

## 3 Composition/information on ingredients

### Chemical characterisation: Mixtures

- Description: Mixture of substances listed below with nonhazardous additions.

### Dangerous components:

CAS: 110-43-0 EINECS: 203-767-1 Index number: 606-024-00-3 Reg.nr.: 01-2119902391-49-0000	heptan-2-one ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H332	25-50%
CAS: 28182-81-2 NLP: 500-060-2 Reg.nr.: 01-2119485796-17	poly(hexamethylene diisocyanate) ⚠ Resp. Sens. 1, H334; ⚠ Eye Irrit. 2, H319; Skin Sens. 1, H317	25-50%
CAS: 123-86-4 EINECS: 204-658-1 Index number: 607-025-00-1 RTECS: AF 7350000 Reg.nr.: 01-2119485493-29	n-butyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	10-25%

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 30.03.2020

Version number 4

Revision: 30.03.2020

**Trade name: AE.002 HARDENER**

(Contd. of page 2)

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

### 4 First aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.

(Contd. on page 4)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 30.03.2020

Version number 4

Revision: 30.03.2020

Trade name: AE.002 HARDENER

(Contd. of page 3)

- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

<b>Ingredients with limit values that require monitoring at the workplace:</b>	
<b>110-43-0 heptan-2-one</b>	
IOELV	Short-term value: 475 mg/m <sup>3</sup> , 100 ppm Long-term value: 238 mg/m <sup>3</sup> , 50 ppm Skin
<b>123-86-4 n-butyl acetate</b>	
IOELV	Short-term value: 723 mg/m <sup>3</sup> , 150 ppm Long-term value: 241 mg/m <sup>3</sup> , 50 ppm

- **Additional information:** The lists valid during the making were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

(Contd. on page 5)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 30.03.2020

Version number 4

Revision: 30.03.2020

Trade name: AE.002 HARDENER

(Contd. of page 4)

- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

- |                         |                 |
|-------------------------|-----------------|
| <b>Form:</b>            | Liquid          |
| <b>Colour:</b>          | Clear           |
| <b>Odour:</b>           | Characteristic  |
| <b>Odour threshold:</b> | Not determined. |

- |                  |                 |
|------------------|-----------------|
| <b>pH-value:</b> | Not determined. |
|------------------|-----------------|

- **Change in condition**

- |   |               |
|---|---------------|
| <b>Melting point/freezing point:</b>            | Undetermined. |
| <b>Initial boiling point and boiling range:</b> | 124-128 °C    |

- |                     |       |
|---------------------|-------|
| <b>Flash point:</b> | 27 °C |
|---------------------|-------|

- |                                   |                 |
|-----------------------------------|-----------------|
| <b>Flammability (solid, gas):</b> | Not applicable. |
|-----------------------------------|-----------------|

- |                              |        |
|------------------------------|--------|
| <b>Ignition temperature:</b> | 370 °C |
|------------------------------|--------|

- |                                   |                 |
|-----------------------------------|-----------------|
| <b>Decomposition temperature:</b> | Not determined. |
|-----------------------------------|-----------------|

- |                                   |                              |
|-----------------------------------|------------------------------|
| <b>Auto-ignition temperature:</b> | Product is not selfigniting. |
|-----------------------------------|------------------------------|

- |                              |   |
|------------------------------|---|
| <b>Explosive properties:</b> | Product is not explosive. However, formation of explosive air/vapour mixtures are possible. |
|------------------------------|---|

- **Explosion limits:**

- |               |           |
|---------------|-----------|
| <b>Lower:</b> | 1 Vol %   |
| <b>Upper:</b> | 7.5 Vol % |

- |                                  |          |
|----------------------------------|----------|
| <b>Vapour pressure at 20 °C:</b> | 10.7 hPa |
|----------------------------------|----------|

- |                          |                         |
|--------------------------|-------------------------|
| <b>Density at 20 °C:</b> | 0.971 g/cm <sup>3</sup> |
| <b>Relative density</b>  | Not determined.         |
| <b>Vapour density</b>    | Not determined.         |
| <b>Evaporation rate</b>  | Not determined.         |

- |  |                 |
|--|-----------------|
| <b>Solubility in / Miscibility with water:</b> | Fully miscible. |
|--|-----------------|

- |  |                 |
|--|-----------------|
| <b>Partition coefficient: n-octanol/water:</b> | Not determined. |
|--|-----------------|

- **Viscosity:**

- |                   |                 |
|-------------------|-----------------|
| <b>Dynamic:</b>   | Not determined. |
| <b>Kinematic:</b> | Not determined. |

(Contd. on page 6)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 30.03.2020

Version number 4

Revision: 30.03.2020

Trade name: AE.002 HARDENER

(Contd. of page 5)

<b>· Solvent content:</b>	
<b>Organic solvents:</b>	58.3 %
<b>VOC (EC)</b>	58.33 %
<b>· Solids content:</b>	
0.0 %	
<b>· Other information</b>	
No further relevant information available.	

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity** Based on available data, the classification criteria are not met.

- **LD/LC50 values relevant for classification:**

#### 110-43-0 heptan-2-one

Oral	LD50	1,670 mg/kg (rat)
Dermal	LD50	12,600 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
- **Serious eye damage/irritation**  
Causes serious eye irritation.
- **Respiratory or skin sensitisation**  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

(Contd. on page 7)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 30.03.2020

Version number 4

Revision: 30.03.2020

Trade name: AE.002 HARDENER


(Contd. of page 6)

- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

- |   |                             |
|---|-----------------------------|
| · <b>UN-Number</b>  |                             |
| · <b>ADR, IMDG, IATA</b>  | UN1263                      |
| · <b>UN proper shipping name</b>  |                             |
| · <b>ADR</b>  | 1263 PAINT                  |
| · <b>IMDG, IATA</b>   | PAINT                       |
| · <b>Transport hazard class(es)</b>   |                             |
| · <b>ADR, IMDG, IATA</b>  |                             |
|  |                             |
| · <b>Class</b>  | 3 Flammable liquids.        |
| · <b>Label</b>  | 3                           |
| · <b>Packing group</b>  |                             |
| · <b>ADR, IMDG, IATA</b>  | III                         |
| · <b>Environmental hazards:</b>   |                             |
| · <b>Marine pollutant:</b>  | No                          |
| · <b>Special precautions for user</b>   | Warning: Flammable liquids. |
| · <b>Hazard identification number (Kemler code):</b>                                | 30                          |
| · <b>EMS Number:</b>  | F-E, S-E                    |
| · <b>Stowage Category</b>   | A                           |
| · <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>         | Not applicable.             |

(Contd. on page 8)

EU



# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 30.03.2020

Version number 4

Revision: 30.03.2020

Trade name: AE.002 HARDENER

(Contd. of page 7)

· **Transport/Additional information:**

· **ADR**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **Transport category**

3

· **Tunnel restriction code**

D/E

· **IMDG**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN 1263 PAINT, 3, III

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c** FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H336 May cause drowsiness or dizziness.

· **Department issuing SDS:** Environment protection department.

· **Contact:** Mr. Roberts

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

(Contd. on page 9)



**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 30.03.2020

Version number 4

Revision: 30.03.2020

**Trade name: AE.002 HARDENER**

(Contd. of page 8)

*LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 3: Flammable liquids – Category 3**Acute Tox. 4: Acute toxicity - oral – Category 4**Eye Irrit. 2: Serious eye damage/eye irritation – Category 2**Resp. Sens. 1: Respiratory sensitisation – Category 1**Skin Sens. 1: Skin sensitisation – Category 1**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

EU