

# Safety Data Sheet

## Acrisolon 336/Helamin 906 H C 4

Replaces date: 03/06/2024

Revision date: 01/03/2024  
Version: 5.1.0

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

#### 1.1. Product identifier

Trade name: Acrisolon 336/Helamin 906 H C 4

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

Recommended uses: Corrosion inhibitors and anti-scaling agents.

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

##### Supplier

Company: Helamin France Sarl  
Address: Le Technoparc, 135 rue Thomas-Edison  
Zip code: F-01630  
City: St-Genis-Pouilly  
Country: FRANCE  
E-mail: inquiry@helamin.com  
Phone: + 33 (0)4 50 42 01 34  
Fax: + 33 (0)4 50 42 13 00  
Homepage: http://www.helamin.com

#### 1.4. Emergency Telephone Number

+33 (0)4 50 42 01 34 (Helamin France Sarl)

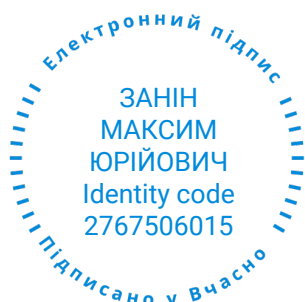
Tel. + 33 (0)4 72 11 69 11 (24h) / Centre Antipoison et de Toxicovigilance de Lyon, Bâtiment A, 4ème étage, 162 Avenue Lacassagne, F-69424 Lyon Cedex 03, France

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

CLP-classification: Acute Tox. 4;H302/312  
Skin Corr. 1B;H314  
Eye Dam. 1;H318  
STOT SE 3;H335  
Repr. 2;H361f  
STOT RE 2;H373  
Aquatic Chronic 3;H412

Most serious harmful effects: Harmful if swallowed or in contact with skin. Causes severe skin burns and eye damage. May cause respiratory irritation. Suspected of damaging fertility. May cause damage to organs through prolonged or repeated exposure. Harmful to aquatic life with long lasting effects. The product releases organic solvent vapours which may cause lethargy and dizziness. At high concentrations, the vapours may cause headache and intoxication. Prolonged or repeated exposure by skin contact or inhalation of vapours may cause damage to the central nervous system.



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### 2.2. Label elements

#### Pictograms



Signal word:

Danger

#### Contains

Substance:

Cyclohexylamine; 2-Aminoethanol; (Z)-N-9-octadecenylpropane-1,3-diamine;

#### Hazard Statements

H302/312

Harmful if swallowed or in contact with skin.

H314

Causes severe skin burns and eye damage.

H335

May cause respiratory irritation.

H361f

Suspected of damaging fertility.

H373

May cause damage to organs through prolonged or repeated exposure.

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.

P303+361+353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

P305+351+338

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.

P501

Dispose of contents/container in accordance with local regulation.

### 2.3. Other hazards

The product does not contain any PBT or vPvB substances.

Endocrine disrupting properties: None known.

## SECTION 3: Composition/information on ingredients

### 3.2. Mixtures

| Substance       | CAS No./ EC No./ REACH Reg. No.           | Concentration | Notes | CLP-classification   |
|-----------------|---|---------------|-------|--|
| Cyclohexylamine | 108-91-8<br>203-629-0<br>01-2119486803-29 | 15 - 18 %     | 15    | Flam. Liq. 3;H226<br>Acute Tox. 3;H301<br>Acute Tox. 3;H311<br>Skin Corr. 1B;H314<br>Repr. 2;H361f<br><br>LD50 (Acute toxicity - dermal): 275 mg/kg bw<br>LD50 (Acute toxicity - oral): 300 mg/kg bw |

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|  |  |           |  |
|--|--|-----------|--|
| 2-Aminoethanol                         | 141-43-5<br>205-483-3<br>01-2119486455-28  | 10 - 12 % | Acute Tox. 4;H302/312/332<br>Skin Corr. 1B;H314<br>Eye Dam. 1;H318<br>STOT SE 3;H335<br>Aquatic Chronic 3;H412<br><br>C ≥ 5%: STOT SE 3;H335<br>LC50 (vapour) (Acute toxicity - inhalation): > 1.3 mg/l<br>LD50 (Acute toxicity - oral): 1089 mg/kg bw |
| (Z)-N-9-octadecenylpropane-1,3-diamine | 7173-62-8<br>230-528-9<br>01-2119487002-46 | 2.5 - 5 % | Acute Tox. 4;H302<br>Skin Corr. 1B;H314<br>Eye Dam. 1;H318<br>STOT RE 1;H372<br>Aquatic Acute 1;H400<br>Aquatic Chronic 1;H410<br><br>M (acute): 10<br>M (chronic): 1  |

Please see section 16 for the full text of H- / EUH-phrases.

15 = REACH-registered with a different classification than in Regulation 1272/2008 Appendix VI.

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

|                      |  |
|----------------------|--|
| <b>Inhalation:</b>   | Seek fresh air. Immediately call a POISON CENTER or doctor/physician.  |
| <b>Ingestion:</b>    | Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.  |
| <b>Skin contact:</b> | Immediately remove contaminated clothing. Wash the skin thoroughly with water and continue washing for a long time. Immediately call a POISON CENTER or doctor/physician.                                |
| <b>Eye contact:</b>  | Open eye wide, remove any contact lenses and flush immediately with water (preferably using eye wash equipment). Seek medical advice immediately. Continue flushing until medical attention is obtained. |
| <b>General:</b>      | When obtaining medical advice, show the safety data sheet or label.  |

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

Ingestion may cause caustic burning in mouth, esophagus and stomach. Pains in mouth, throat and stomach. Difficulty swallowing, feeling unwell and vomiting of blood. Brown spots and burns may appear in and around the mouth. Has a caustic burning effect and causes burning pain, reddening, blistering and burning sores if it comes in contact with skin. Eye contact may result in deep caustic burns, pain, tearing and cramping of the eyelids. Risk of serious eye injury and loss of sight. Inhalation of vapours may cause irritation to the upper airways. Suspected of damaging fertility. Harmful in contact with skin. Harmful if swallowed. The product releases organic solvent vapours which may cause lethargy and dizziness. At high concentrations, the vapours may cause headache and intoxication. Prolonged or repeated exposure by skin contact or inhalation of vapours may cause damage to the central nervous system. May cause damage to organs through prolonged or repeated exposure.

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

Treat symptoms. Ensure that medical personnel are aware of the material involved, and take precautions to protect themselves.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

|                                      |  |
|--------------------------------------|--|
| <b>Suitable extinguishing media:</b> | Extinguish with powder, foam or water mist. Use water or water mist to cool non-ignited stock. |
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**Unsuitable extinguishing media:** Do not use water stream, as it may spread the fire.

### 5.2. Special hazards arising from the substance or mixture

The product decomposes when combusted and the following toxic gases can be formed: Carbon monoxide and carbon dioxide/ Nitrous gases.

### 5.3. Advice for firefighters

Move containers from danger area if it can be done without risk. Avoid inhalation of vapour and flue gases - seek fresh air. Extinguishing water which has been in contact with the product may be corrosive. Wear Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel:** Stay upwind/keep distance from source. Stop leak if this can be done without risk. Wear gloves. Wear safety goggles/face protection. In case of insufficient ventilation, wear respiratory protective equipment.

**For emergency responders:** In addition to the above: Chemical protective suit equivalent to EN 943-2 is recommended.

### 6.2. Environmental precautions

Prevent spillage from entering drains and/or surface water.

### 6.3. Methods and material for containment and cleaning up

Contain and absorb spill with sand or other absorbent material and transfer to suitable waste containers. Wipe up minor spills with a cloth. Caution! Causes burns. Rinse with water.

### 6.4. Reference to other sections

See section 8 for type of protective equipment. See section 13 for instructions on disposal.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Running water and eye wash equipment must be available. A safety shower must be available. Wash hands before breaks, before using restroom facilities, and at the end of work. A workplace assessment must be conducted to ensure that employees are not exposed to effects that may involve a risk during pregnancy or when breastfeeding.

### 7.2. Conditions for safe storage, including any incompatibilities

Store safely, out of reach of children and away from food, animal feeding stuffs, medicines, etc. Keep in tightly closed original packaging.

### 7.3. Specific end use(s)

None.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limit

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| Substance name | Time period | ppm | mg/m³ | fiber/cm³ | Remarks                       | Notation |
|----------------|-------------|-----|-------|-----------|-------------------------------|----------|
| 2-aminoethanol | 15m         | 3   | 7.6   |           | OEL value for: 2-aminoethanol | Skin     |
| 2-aminoethanol | 8h          | 1   | 2.5   |           | OEL value for: 2-aminoethanol | Skin     |

Skin = A skin notation assigned to the occupational exposure limit value indicates the possibility of significant uptake through the skin.

### Measuring methods:

Compliance with occupational exposure limits may be checked by occupational hygiene measurements.

### Legal basis:

Commission Directive 2000/39/EC (Occupational Exposure Limits) as subsequently amended. Last amended by Commission Directive 2019/1831/EU. Directive 2004/37/EC (Exposure to carcinogens or mutagens at work) as subsequently amended. Last amended by Directive 2022/431/EU. Resolution 2019/2182(INL) (Protecting workers from asbestos) as subsequently amended. Last amended by resolution 2022/C 184/03.

### PNEC

| Cyclohexylamine, cas-no 108-91-8                         |                |                   |                      |      |
|--|----------------|-------------------|----------------------|------|
| Exposure   | Value          | Assessment Factor | Extrapolation Method | Note |
| PNEC STP (wastewater-treatment facilities)               | 22,52 mg/l     |                   |                      |      |
| PNEC aqua (freshwater)                                   | 0,016 mg/l     |                   |                      |      |
| PNEC soil  | 0,805 mg/kg dw |                   |                      |      |
| PNEC sediment (freshwater)                               | 4,1 mg/kg dw   |                   |                      |      |
| PNEC sediment (marine water)                             | 0,41 mg/kg dw  |                   |                      |      |
| PNEC aqua (marine water)                                 | 0,0016 mg/l    |                   |                      |      |
| 2-Aminoethanol, cas-no 141-43-5                          |                |                   |                      |      |
| Exposure   | Value          | Assessment Factor | Extrapolation Method | Note |
| PNEC aqua (freshwater)                                   | 0,085 mg/l     |                   |                      |      |
| PNEC aqua (marine water)                                 | 0,0085 mg/l    |                   |                      |      |
| PNEC soil  | 0,035 mg/kg    |                   |                      |      |
| PNEC STP (wastewater-treatment facilities)               | 100 mg/l       |                   |                      |      |
| PNEC sediment (freshwater)                               | 0,434 mg/kg    |                   |                      |      |
| PNEC sediment (marine water)                             | 0,0434 mg/kg   |                   |                      |      |
| PNEC aqua (intermittent releases)                        | 0.028 mg/l     |                   |                      |      |
| (Z)-N-9-octadecenylpropane-1,3-diamine, cas-no 7173-62-8 |                |                   |                      |      |
| Exposure   | Value          | Assessment Factor | Extrapolation Method | Note |
| PNEC STP (wastewater-treatment facilities)               | 0,251 mg/l     |                   |                      |      |
| PNEC aqua (freshwater)                                   | 0,010 mg/l     |                   |                      |      |
| PNEC sediment (freshwater)                               | 1,72 mg/kg dw  |                   |                      |      |

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|           |             |  |  |  |
|-----------|-------------|--|--|--|
| PNEC soil | 10 mg/kg dw |  |  |  |
|-----------|-------------|--|--|--|

### DNEL - workers

Cyclohexylamine, cas-no 108-91-8

| Exposure   | Value            | Assessment Factor | Dose Descriptor | Main Impact Parameter | Note |
|--|------------------|-------------------|-----------------|-----------------------|------|
| Dermal DNEL (acute/short-term exposure - systemic effects)     | 0,8 mg/kg bw/day |                   |                 |                       |      |
| Dermal DNEL (long-term exposure - systemic effects)            | 0,4 mg/kg bw/day |                   |                 |                       |      |
| Inhalation DNEL (acute/short-term exposure - systemic effects) | 8,2 mg/m³        |                   |                 |                       |      |
| Inhalation DNEL (long-term exposure - systemic effects)        | 5 mg/m³          |                   |                 |                       |      |

2-Aminoethanol, cas-no 141-43-5

| Exposure   | Value          | Assessment Factor | Dose Descriptor | Main Impact Parameter | Note |
|--|----------------|-------------------|-----------------|-----------------------|------|
| Dermal DNEL (long-term exposure - systemic effects)  | 1 mg/kg bw/day |                   |                 |                       |      |
| Inhalation DNEL (long-term exposure - local effects) | 3,3 mg/m³      |                   |                 |                       |      |

(Z)-N-9-octadecenylpropane-1,3-diamine, cas-no 7173-62-8

| Exposure  | Value               | Assessment Factor | Dose Descriptor | Main Impact Parameter | Note |
|---|---------------------|-------------------|-----------------|-----------------------|------|
| Dermal DNEL (long-term exposure - systemic effects)     | 0.0056 mg/kg bw/day |                   |                 |                       |      |
| Inhalation DNEL (long-term exposure - systemic effects) | 0,0395 mg/m³        |                   |                 |                       |      |

### DNEL - general population

Cyclohexylamine, cas-no 108-91-8

| Exposure   | Value            | Assessment Factor | Dose Descriptor | Main Impact Parameter | Note |
|--|------------------|-------------------|-----------------|-----------------------|------|
| Dermal DNEL (acute/short-term exposure - systemic effects)     | 0.4 mg/kg bw/day |                   |                 |                       |      |
| Oral DNEL (acute/short-term exposure - systemic effects)       | 0.4 mg/kg bw/day |                   |                 |                       |      |
| Inhalation DNEL (acute/short-term exposure - systemic effects) | 1.2 mg/m³        |                   |                 |                       |      |

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|   |                  |  |  |  |  |
|---|------------------|--|--|--|--|
| Oral DNEL (long-term exposure - systemic effects)       | 0.2 mg/kg bw/day |  |  |  |  |
| Inhalation DNEL (long-term exposure - systemic effects) | 0.6 mg/m³        |  |  |  |  |
| Dermal DNEL (long-term exposure - systemic effects)     | 0.2 mg/kg bw/day |  |  |  |  |

### 2-Aminoethanol, cas-no 141-43-5

| Exposure   | Value             | Assessment Factor | Dose Descriptor | Main Impact Parameter | Note |
|--|-------------------|-------------------|-----------------|-----------------------|------|
| Inhalation DNEL (long-term exposure - local effects) | 2 mg/m³           |                   |                 |                       |      |
| Dermal DNEL (long-term exposure - systemic effects)  | 0,24 mg/kg bw/day |                   |                 |                       |      |
| Oral DNEL (long-term exposure - systemic effects)    | 3,75 mg/kg bw/day |                   |                 |                       |      |

### (Z)-N-9-octadecenylpropane-1,3-diamine, cas-no 7173-62-8

| Exposure  | Value              | Assessment Factor | Dose Descriptor | Main Impact Parameter | Note |
|---|--------------------|-------------------|-----------------|-----------------------|------|
| Inhalation DNEL (long-term exposure - systemic effects) | 0.007 mg/cm³       |                   |                 |                       |      |
| Dermal DNEL (long-term exposure - systemic effects)     | 0.002 mg/kg bw/day |                   |                 |                       |      |
| Oral DNEL (long-term exposure - systemic effects)       | 0.002 mg/kg bw/day |                   |                 |                       |      |

## 8.2. Exposure controls

### Appropriate engineering controls:

Wear the personal protective equipment specified below.

### Personal protective equipment, eye/face protection:

Wear safety goggles/face protection. Eye protection must conform to EN 166.

### Personal protective equipment, skin protection:

Wear gloves. Type of material: Butyl rubber/Perfluorelastomer/Fluorsilicone/PTFE. Gloves must conform to EN 374. Breakthrough time has not been determined for the product. Change gloves often.

### Personal protective equipment, respiratory protection:

Use process ventilation. If this is not possible, use respiratory equipment. Filter type: K. Respiratory protection must conform to one of the following standards: EN 136/140/145.

### Environmental exposure controls:

Ensure compliance with local regulations for emissions.

## SECTION 9: Physical and chemical properties

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

| Parameter | Value/unit |
|-----------|------------|
| State     | Liquid     |

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|            |  |
|------------|--|
| Colour     | Colourless / Light yellow                |
| Odour      | Characteristic                           |
| Solubility | Solubility in water: Completely miscible |

| Parameter                               | Value/unit | Remarks                     |
|---|------------|-----------------------------|
| Odour threshold                         | No data    |                             |
| Melting point                           | No data    |                             |
| Freezing point                          | -1 °C      |                             |
| Initial boiling point and boiling range | 100 °C     | (DIN 51794)                 |
| Flammability (solid, gas)               | No data    |                             |
| Flammability limits                     | No data    |                             |
| Explosion limits                        | No data    |                             |
| Flash Point                             | No data    |                             |
| Auto-ignition temperature               |            | Not spontaneously flammable |
| Decomposition temperature               | No data    |                             |
| pH (solution for use)                   | 11         |                             |
| pH (concentrate)                        | 13.0-13.5  |                             |
| Kinematic viscosity                     | No data    |                             |
| Viscosity                               | No data    |                             |
| Partition coefficient n-octanol/water   | No data    |                             |
| Vapour pressure                         | 23 hPa     |                             |
| Density                                 | No data    |                             |
| Relative density                        | 1          |                             |
| Vapour density                          | No data    |                             |
| Relative density (sat. air)             | No data    |                             |
| Particle characteristics                | No data    |                             |

### 9.2. Other information

Other Information: None.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Not reactive.

### 10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions.

### 10.3. Possibility of hazardous reactions

None known.

### 10.4. Conditions to avoid

None known.

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products



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Carbon monoxide and carbon dioxide/ Nitrous gases.

### SECTION 11: Toxicological information

#### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

##### Acute toxicity - oral

###### Cyclohexylamine, cas-no 108-91-8

| Organism | Test Type | Exposure time       | Value        | Conclusion | Test method | Source |
|----------|-----------|---------------------|--------------|------------|-------------|--------|
|          | LD50      | 7 d (1-4% solution) | 300 mg/kg bw |            |             |        |

###### 2-Aminoethanol, cas-no 141-43-5

| Organism | Test Type | Exposure time | Value         | Conclusion | Test method | Source |
|----------|-----------|---------------|---------------|------------|-------------|--------|
| Rat      | LD50      |               | 1089 mg/kg bw |            | OECD 401    |        |

Harmful if swallowed.

##### Acute toxicity - dermal

###### Cyclohexylamine, cas-no 108-91-8

| Organism | Test Type | Exposure time | Value        | Conclusion | Test method | Source |
|----------|-----------|---------------|--------------|------------|-------------|--------|
| Rabbit   | LD50      |               | 275 mg/kg bw |            |             |        |

Harmful in contact with skin.

##### Acute toxicity - inhalation

###### Cyclohexylamine, cas-no 108-91-8

| Organism | Test Type     | Exposure time | Value      | Conclusion | Test method | Source |
|----------|---------------|---------------|------------|------------|-------------|--------|
| Rat      | LC50 (vapour) | 4h            | > 700 mg/l |            |             |        |

###### 2-Aminoethanol, cas-no 141-43-5

| Organism | Test Type     | Exposure time | Value      | Conclusion | Test method | Source |
|----------|---------------|---------------|------------|------------|-------------|--------|
|          | LC50 (vapour) | 6h            | > 1.3 mg/l |            |             |        |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

##### Skin corrosion/irritation

###### 2-Aminoethanol, cas-no 141-43-5

| Organism | Test Type | Exposure time | Value | Conclusion | Test method | Source |
|----------|-----------|---------------|-------|------------|-------------|--------|
| Rabbit   |           |               |       | Corrosive  | OECD 404    |        |

###### (Z)-N-9-octadecenylpropane-1,3-diamine, cas-no 7173-62-8

| Organism | Test Type | Exposure time | Value | Conclusion | Test method | Source |
|----------|-----------|---------------|-------|------------|-------------|--------|
| Rabbit   |           |               |       | Corrosive  | OECD 404    |        |

Has a caustic burning effect and causes burning pain, reddening, blistering and burning sores if it comes in contact with skin.

##### Serious eye damage/eye irritation

###### 2-Aminoethanol, cas-no 141-43-5

| Organism | Test Type | Exposure time | Value | Conclusion | Test method | Source |
|----------|-----------|---------------|-------|------------|-------------|--------|
| Rabbit   |           |               |       | Corrosive  |             |        |

Eye contact may result in deep caustic burns, pain, tearing and cramping of the eyelids. Risk of serious eye injury and loss of sight.

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### Respiratory sensitisation or skin sensitisation

#### 2-Aminoethanol, cas-no 141-43-5

| Organism   | Test Type         | Exposure time | Value | Conclusion      | Test method | Source |
|------------|-------------------|---------------|-------|-----------------|-------------|--------|
| Guinea pig | Maximisation Test |               |       | Non-sensitising | OECD 406    |        |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

### Germ cell mutagenicity

#### (Z)-N-9-octadecenylpropane-1,3-diamine, cas-no 7173-62-8

| Organism | Test Type                                  | Exposure time | Value | Conclusion | Test method | Source |
|----------|--|---------------|-------|------------|-------------|--------|
|          | Ames test                                  |               |       | Negative   | OECD 471    |        |
|          | In vitro mammalian cell gene mutation test |               |       | Negative   | OECD 476    |        |
|          | Chromosome aberration test in vitro        |               |       | Negative   | OECD 473    |        |

The product does not have to be classified. Based on existing data, the classification criteria are deemed not to have been met.

**Carcinogenic properties:** The product does not have to be classified. Test data are not available.

### Reproductive toxicity

#### Cyclohexylamine, cas-no 108-91-8

| Organism | Test Type    | Exposure time | Value              | Conclusion                       | Test method | Source |
|----------|--------------|---------------|--------------------|----------------------------------|-------------|--------|
| Rat      | NOAEL (oral) |               | > 100 mg/kg bw/day | Suspected of damaging fertility. |             |        |

Suspected of damaging fertility.

**Single STOT exposure:** Inhalation of vapours may cause irritation to the upper airways. The product releases organic solvent vapours which may cause lethargy and dizziness. At high concentrations, the vapours may cause headache and intoxication.

**Repeated STOT exposure:** May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated exposure by skin contact or inhalation of vapours may cause damage to the central nervous system.

**Aspiration hazard:** The product does not have to be classified. Test data are not available.

### 11.2. Information on other hazards

**Endocrine disrupting properties:** None known.

**Other toxicological effects:** Ingestion may cause caustic burning in mouth, oesophagus and stomach. Pains in mouth, throat and stomach. Difficulty swallowing, feeling unwell and vomiting of blood. Brown spots and burns may appear in and around the mouth.

## SECTION 12: Ecological information

### 12.1. Toxicity

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### Cyclohexylamine, cas-no 108-91-8

| Organism  | Species                   | Exposure time | Test Type | Value     | Conclusion | Test method | Source |
|-----------|---------------------------|---------------|-----------|-----------|------------|-------------|--------|
| Crustacea | Daphnia magna             |               | 21dNOEC   | 1.6 mg/l  |            |             |        |
| Fish      |                           |               | 14dLC50   | 19 mg/l   |            |             |        |
| Crustacea | Daphnia magna             |               | EC50      | 36.3 mg/l |            |             |        |
| Algae     | Selenastrum capricornutum |               | 72hNOEC   | 10.3 mg/l |            |             |        |
| Algae     | Selenastrum capricornutum |               | 72hEC50   | 29.3 mg/l |            |             |        |

### 2-Aminoethanol, cas-no 141-43-5

| Organism  | Species                   | Exposure time | Test Type | Value       | Conclusion | Test method | Source |
|-----------|---------------------------|---------------|-----------|-------------|------------|-------------|--------|
| Fish      | Cyprinus carpio           |               | 96hLC50   | 349 mg/l    |            |             |        |
| Algae     | Scenedesmus subspicatus   |               | 72hEC50   | 22 mg/l     |            | OECD 201    |        |
| Bacteria  |                           | 3 h           | EC        | > 1000 mg/l |            | OECD 209    |        |
| Crustacea | Daphnia magna             |               | 48hEC50   | 65 mg/l     |            |             |        |
| Fish      | Carassius auratus         |               | 96hLC50   | 170 mg/l    |            |             |        |
| Fish      | Oryzias latipes           |               | 30dNOEC   | 1.2 mg/l    |            |             |        |
| Bacteria  |                           | 30 min        | EC20      | > 1000 mg/l |            | OECD 209    |        |
| Algae     | Scenedesmus capricornutum |               | 72hEC50   | 2.5 mg/l    |            |             |        |
| Crustacea | Daphnia magna             |               | 21dNOEC   | 0.85 mg/l   |            | OECD 211    |        |
| Bacteria  | Pseudomonas putida        | 16h           |           | 110         |            | DIN 38412   |        |

### (Z)-N-9-octadecenylpropane-1,3-diamine, cas-no 7173-62-8

| Organism  | Species                 | Exposure time | Test Type | Value            | Conclusion | Test method | Source |
|-----------|-------------------------|---------------|-----------|------------------|------------|-------------|--------|
| Fish      | Brachydanio rerio       |               | 96hLC50   | 0.1 - 1 mg/l     |            | OECD 203    |        |
| Crustacea | Daphnia magna           |               | 48hEC50   | 0.01 - 0.1 mg/l  |            | OECD 202    |        |
| Crustacea | Daphnia magna           |               | 21dNOEC   | 0.001 - 0.1 mg/l |            | OECD 211    |        |
| Algae     | Desmodesmus subspicatus |               | 72hEC50   | 0.01 - 0.1 mg/l  |            | OECD 201    |        |
| Algae     | Desmodesmus subspicatus |               | 72hEC10   | 0.01 - 0.1 mg/l  |            | OECD 201    |        |

Harmful to aquatic life with long lasting effects.

### 12.2. Persistence and degradability

#### 2-Aminoethanol, cas-no 141-43-5

| Organism | Species | Exposure time | Test Type | Value  | Conclusion             | Test method | Source |
|----------|---------|---------------|-----------|--------|------------------------|-------------|--------|
|          |         | 21d           |           | > 90 % | Readily biodegradable. | OECD 301 A  |        |

#### (Z)-N-9-octadecenylpropane-1,3-diamine, cas-no 7173-62-8

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| Organism | Species | Exposure time | Test Type | Value | Conclusion             | Test method | Source |
|----------|---------|---------------|-----------|-------|------------------------|-------------|--------|
|          |         |               |           |       | Readily biodegradable. | OECD 301 D  |        |

Expected to be biodegradable.

### 12.3. Bioaccumulative potential

#### Cyclohexylamine, cas-no 108-91-8

| Organism | Species | Exposure time | Test Type | Value | Conclusion                   | Test method | Source |
|----------|---------|---------------|-----------|-------|------------------------------|-------------|--------|
|          |         |               | Log Pow   | 3.7   |                              |             |        |
| Fish     |         |               | BCF       | 2.8   | No bioaccumulation expected. |             |        |

#### 2-Aminoethanol, cas-no 141-43-5

| Organism | Species | Exposure time | Test Type | Value | Conclusion | Test method | Source |
|----------|---------|---------------|-----------|-------|------------|-------------|--------|
|          |         |               | Log Kow   | -2.46 |            |             |        |

#### (Z)-N-9-octadecenylpropane-1,3-diamine, cas-no 7173-62-8

| Organism | Species | Exposure time | Test Type | Value | Conclusion                   | Test method | Source |
|----------|---------|---------------|-----------|-------|------------------------------|-------------|--------|
|          |         |               |           |       | No bioaccumulation expected. |             |        |

No bioaccumulation expected.

### 12.4. Mobility in soil

#### Cyclohexylamine, cas-no 108-91-8

| Organism | Species | Exposure time | Test Type | Value | Conclusion                     | Test method | Source |
|----------|---------|---------------|-----------|-------|--------------------------------|-------------|--------|
|          |         |               | Log Koc   | 3.4   | Expected to be mobile in soil. |             |        |

Expected to be mobile in soil.

### 12.5. Results of PBT and vPvB assessment

The product does not contain any PBT or vPvB substances.

### 12.6. Endocrine disrupting properties

None known.

### 12.7. Other adverse effects

The product affects the pH value of the local aquatic environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Avoid discharge to drain or surface water. If this product as supplied becomes a waste, it meets the criteria of a hazardous waste (Dir. 2008/98/EU). Collect spills and waste in closed, leak-proof containers for disposal at the local hazardous waste site.

Empty, cleansed packaging should be disposed of for recycling. Uncleansed packaging is to be disposed of via the local waste-removal scheme.

**Category of waste:** Product: 16 05 08\* discarded organic chemicals consisting of or containing hazardous

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### Category of waste:

substances

Absorbent/cloth contaminated with the product: EWC code: 15 02 02 absorbents, filter materials (including oil filters not otherwise specified), wiping cloths, protective clothing contaminated by dangerous substances.

### SECTION 14: Transport information

#### Land transport (ADR/RID)

|                                   |   |                              |  |
|-----------------------------------|---|------------------------------|--|
| 14.1. UN number or ID number:     | 2735  | 14.4. Packing group:         | II   |
| 14.2. UN proper shipping name:    | AMINES, LIQUID, CORROSIVE, N.O.S. (Cyclohexylamine) | 14.5. Environmental hazards: | The product should not be labelled as an environmental hazard (symbol: fish and tree). |
| 14.3. Transport hazard class(es): | 8   |                              |  |
| Hazard label(s):                  | 8   |                              |  |
| Hazard identification number:     | 80  | Tunnel restriction code:     | E  |

#### Inland water ways transport (ADN)

|                                   |   |                              |  |
|-----------------------------------|---|------------------------------|--|
| 14.1. UN number or ID number:     | 2735  | 14.4. Packing group:         | II   |
| 14.2. UN proper shipping name:    | AMINES, LIQUID, CORROSIVE, N.O.S. (Cyclohexylamine) | 14.5. Environmental hazards: | The product should not be labelled as an environmental hazard (symbol: fish and tree). |
| 14.3. Transport hazard class(es): | 8   |                              |  |
| Hazard label(s):                  | 8   |                              |  |
| Transport in tank vessels:        | Not applicable.                                     |                              |  |

#### Sea transport (IMDG)

|                                   |   |  |   |
|-----------------------------------|---|--|---|
| 14.1. UN number or ID number:     | 2735  | 14.4. Packing group:                       | II  |
| 14.2. UN proper shipping name:    | AMINES, LIQUID, CORROSIVE, N.O.S. (Cyclohexylamine) | 14.5. Environmental hazards:               | The product is not a Marine Pollutant (MP). |
| 14.3. Transport hazard class(es): | 8   | Environmental Hazardous Substance Name(s): |   |
| Hazard label(s):                  | 8   |  |   |
| EmS:                              | F-A, S-B  | IMDG Code segregation group:               | Segr. grp. 18 - Alkalis (SGG18)             |

#### Air transport (ICAO-TI / IATA-DGR)

|                                   |   |                              |  |
|-----------------------------------|---|------------------------------|--|
| 14.1. UN number or ID number:     | 2735  | 14.4. Packing group:         | II   |
| 14.2. UN proper shipping name:    | AMINES, LIQUID, CORROSIVE, N.O.S. (Cyclohexylamine) | 14.5. Environmental hazards: | The product should not be labelled as an environmental hazard (symbol: fish and tree). |
| 14.3. Transport hazard class(es): | 8   |                              |  |
| Hazard label(s):                  | 8   |                              |  |

#### 14.6. Special precautions for user

None.

#### 14.7. Maritime transport in bulk according to IMO instruments

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Not applicable.

## SECTION 15: Regulatory information

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

**Special Provisions:** Special care should be applied for employees under the age of 18. Young people under the age of 18 may not carry out any work causing harmful exposure to this product.

Covered by:  
Council Directive (EC) on the protection of young people at work.  
Council Directive (EC) on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.

### 15.2. Chemical Safety Assessment

| REACH Reg. No.   | Substance name                         |
|------------------|--|
| 01-2119486455-28 | 2-Aminoethanol                         |
| 01-2119486803-29 | Cyclohexylamine                        |
| 01-2119487002-46 | (Z)-N-9-octadecenylpropane-1,3-diamine |

## SECTION 16: Other information

### Version history and indication of changes

| Version | Revision date | Responsible            | Changes               |
|---------|---------------|------------------------|-----------------------|
| 5.1.0   | 19/06/2023    | Bureau Veritas HSE/LJO | 1,2,3,7,8,11,12,15,16 |

**Abbreviations:**  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: Very Persistent and Very Bioaccumulative  
STOT: Specific Target Organ Toxicity  
DNEL: Derived No Effect Level  
PNEC: Predicted No Effect Concentration

**Other Information:** This safety data sheet has been prepared for and applies to this product only. It is based on our current knowledge and the information that the supplier was able to provide about the product at the time of preparation. They are given for information only. They do not constitute a contractual guarantee of a product's properties. The safety data sheet complies with applicable law on preparation of safety data sheets in accordance with 1907/2006/EC (REACH) as subsequently changed.

**Training advice:** A thorough knowledge of this safety data sheet should be a prerequisite condition.

**Classification method:** Calculation based on the hazards of the known components.  
Test data.

### List of relevant H-statements

|              |   |
|--------------|---|
| H226         | Flammable liquid and vapour.                              |
| H301         | Toxic if swallowed.                                       |
| H302         | Harmful if swallowed.                                     |
| H302/312     | Harmful if swallowed or in contact with skin.             |
| H302/312/332 | Harmful if swallowed, in contact with skin or if inhaled. |
| H311         | Toxic in contact with skin.                               |
| H314         | Causes severe skin burns and eye damage.                  |
| H318         | Causes serious eye damage.                                |

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|       |  |
|-------|--|
| H335  | May cause respiratory irritation.                                  |
| H361f | Suspected of damaging fertility.                                   |
| H372  | Causes damage to organs through prolonged or repeated exposure.    |
| H373  | May cause damage to organs through prolonged or repeated exposure. |
| H400  | Very toxic to aquatic life.  |
| H410  | Very toxic to aquatic life with long lasting effects.              |
| H412  | Harmful to aquatic life with long lasting effects.                 |

### SDS is prepared by

|           |                                |
|-----------|--------------------------------|
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