

**Material Safety Data Sheet**  
according to Regulation (EC) No. 1907/2006

**ADIPIIC ACID**

Revision date 27.02.2025  
Version 1  
Replaces version from -

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**1. Identification of the substance/Mixture and of the company/undertaking**

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**1.1 Product identifier**

Product name Adipic acid  
CAS-No. 124-04-9  
EC-No. 204-673-3  
Index-No. 607-144-00-9

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

Identified uses Pharmaceutical production and analysis.

**1.3 Details of the supplier of the safety data sheet**

Name Valsynthese SA  
Factory address Valsynthese SA  
Fabrikstrasse 48  
PO Box 636  
3900 Brig / Switzerland  
Office address Valsynthese SA  
Societe Suisse des Explosifs Group  
PO Box 636  
3900 Brig / Switzerland

Information Departement This number is available only during office hours.  
Phone +41 27 922 71 11  
E-Mail (Responsible person):  
msds@sse-group.com

**1.4 Emergency Phone Number** +41 27 922 71 11 (only during office hours) or  
Toxicological Information Centre in Switzerland: Tel. 145  
or +41 (0) 44 251 51 51

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## 2. Hazards Identification

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### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage (Category 1), H318

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008

Hazard pictogram(s)



|                                |  |
|--------------------------------|--|
| Signal word                    | Danger   |
| Hazard statement(s)            |  |
| H318                           | Causes serious eye damage.   |
| Precautionary statement(s)     |  |
| P280                           | Wear eye protection/ face protection.  |
| P305+P351+P338                 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| Supplemental Hazard Statements | none   |

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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## 3. Composition / Information on ingredients

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### 3.1 Substance

|                   |   |
|-------------------|---|
| Product name      | Adipic acid                                   |
| Molecular formula | C <sub>6</sub> H <sub>10</sub> O <sub>4</sub> |
| Molecular weight  | 146.14 g/mol                                  |
| CAS-No.           | 124-04-9                                      |
| EC-No.            | 204-673-3                                     |
| Index-No.         | 607-144-00-9                                  |

### Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component  | Classification   | Concentration |
|--|------------------|---------------|
| <b>Adipic acid</b>   |                  |               |
| CAS-No. 124-04-9<br>EC-No. 204-673-3<br>Index-No. 607-144-00-9 | Eye Dam. 1; H318 | <=100%        |

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16.

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## 4. First-aid measures

### 4.1 Description of first aid measures

|                         |  |
|-------------------------|--|
| General advice          | Show this safety data sheet to the doctor in attendance.   |
| If swallowed            | After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.              |
| If inhaled              | After inhalation: fresh air.   |
| In case of skin contact | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.        |
| In case of eye contact  | After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses. |

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

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

No data available

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## 5. Fire fighting measures

### 5.1 Extinguishing media

|                                |  |
|--------------------------------|--|
| Suitable extinguishing media   | Water, Foam, Carbon dioxide (CO <sub>2</sub> ), Dry powder.                  |
| Unsuitable extinguishing media | For this substance/mixture no limitations of extinguishing agents are given. |

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

Carbon oxides  
Combustible.  
Vapors are heavier than air and may spread along floors.  
Forms explosive mixtures with air on intense heating.  
Development of hazardous combustion gases or vapours possible in the event of fire.



### **5.3 Advice for fire fighters**

In the event of fire, wear self-contained breathing apparatus.

### **5.4 Additional information**

Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **6. Accidental release measures**

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

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

### **6.2 Environmental precautions**

Do not let product enter drains.

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

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

### **6.4 Reference to other sections**

For further and detailed information see section 8 and 13.

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## **7. Handling and storage**

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### **7.1 Precautions for safe handling**

For precautions see section 2.2.

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

#### **Storage conditions**

Tightly closed. Dry.

Recommended storage temperature see product label.

#### **Storage class**

Storage class (TRGS 510): 11: Combustible Solids

### **7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.



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## 8. Exposure controls / Personal protection

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### 8.1 Control parameters

#### Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

#### Derived No Effect Level (DNEL)

| Application Area        | Routes of exposure | Health effect    | Value                 |
|-------------------------|--------------------|------------------|-----------------------|
| Worker DNEL, acute      | inhalation         | Systemic effects | 264 mg/m <sup>3</sup> |
| Worker DNEL, acute      | dermal             | Systemic effects |                       |
| Worker DNEL, acute      | inhalation         | Local effects    | 5 mg/m <sup>3</sup>   |
| Worker DNEL, longterm   | inhalation         | Systemic effects | 264 mg/m <sup>3</sup> |
| Worker DNEL, longterm   | dermal             | Systemic effects |                       |
| Worker DNEL, longterm   | inhalation         | Local effects    | 5 mg/m <sup>3</sup>   |
| Consumer DNEL, acute    | inhalation         | Systemic effects | 65 mg/m <sup>3</sup>  |
| Consumer DNEL, acute    | dermal             | Systemic effects |                       |
| Consumer DNEL, acute    | oral               | Systemic effects |                       |
| Consumer DNEL, longterm | inhalation         | Systemic effects | 65 mg/m <sup>3</sup>  |
| Consumer DNEL, longterm | dermal             | Systemic effects |                       |
| Consumer DNEL, longterm | oral               | Systemic effects |                       |

#### Predicted No Effect Concentration (PNEC)

| Compartment                  | Value        |
|------------------------------|--------------|
| Fresh water                  | 0.126 mg/l   |
| Fresh water sediment         | 0.484 mg/kg  |
| Sea water                    | 0.0126 mg/l  |
| Sea sediment                 | 0.0484 mg/kg |
| Aquatic intermittent release | 0.46 mg/l    |
| Sewage treatment plant       | 59.1 mg/l    |
| Soil                         | 0.0228 mg/kg |

### 8.2 Exposure controls

#### Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety Goggles.



|                                 |   |
|---------------------------------|---|
| Skin protection                 | <p>This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: <a href="http://www.kcl.de">www.kcl.de</a>).</p> <p>Full contact<br/> Material: Nitrile rubber<br/> Minimum layer thickness: 0.11 mm<br/> Break through time: 480 min<br/> Material tested: KCL 741 Dermatril® L</p> <p>This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: <a href="http://www.kcl.de">www.kcl.de</a>).</p> <p>Splash contact<br/> Material: Nitrile rubber<br/> Minimum layer thickness: 0.11 mm<br/> Break through time: 480 min<br/> Material tested: KCL 741 Dermatril® L</p> |
| Body Protection                 | protective clothing.  |
| Respiratory protection          | <p>required when dusts are generated.</p> <p>Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P2.</p> <p>The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.</p>   |
| Environmental exposure controls | Do not let product enter drains.  |

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## 9. Physical and chemical properties

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### 9.1 Information on basic physical and chemical properties

|                |                        |
|----------------|------------------------|
| Physical state | crystalline            |
| Color          | white                  |
| Odour          | odorless               |
| pH value       | 2.7 at 23 g/l at 25 °C |



|  |  |
|--|--|
| Melting point/freezing point                 | Melting point/range: 150.85 °C - Regulation No440/2008, Annex, A.1               |
| Initial boiling point and boiling range      | 337.5 °C at 1,013 hPa - (ECHA)   |
| Flash point                                  | 196 °C - closed cup  |
| Evaporation rate                             | No data available  |
| Flammability (solid, gas)                    | No data available  |
| Upper/lower flammability or explosive limits | No data available  |
| Vapour pressure                              | 0.097 hPa at 18.5 °C   |
| Density                                      | 1.36 g/cm <sup>3</sup> at 25 °C  |
| Relative density                             | 1.36 at 25 °C  |
| Water solubility                             | 23 g/l at 25 °C - soluble  |
| Partition coefficient: n-octanol/water       | log Pow: 0.093 at 25 °C - Bioaccumulation is not expected., (ECHA)               |
| Auto-ignition temperature                    | > 400 °C<br>-Regulation (EC) No. 440/2008, Annex, A.:                            |
| Decomposition temperature                    | 338 °C   |
| Viscosity                                    | Viscosity, kinematic: No data available<br>Viscosity, dynamic: No data available |
| Explosive properties                         | No data available  |
| Oxidizing properties                         | none   |
| <b>9.2 Other information</b>                 |  |
| Minimum ignition energy                      | > 100 mJ   |
| Bulk density                                 | ca.700 kg/m <sup>3</sup>   |
| Dissociation constant                        | 4.92 at 20 °C  |

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## 10. Stability and reactivity

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### 10.1 Reactivity

Forms explosive mixtures with air on intense heating.  
A range from approx. 15 Kelvin below the flash point is to be rated as critical.  
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).



### 10.3 Possibility of hazardous reactions

Violent reactions possible with:

Bases

Strong oxidizing agents

Reducing agents

polymerization

with

Aldehydes

Alcohols

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

Mild steel.

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## 11. Toxicological information

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### 11.1 Information on toxicological effects

|                                   |   |
|-----------------------------------|---|
| Acute toxicity                    | LD50 Oral - Rat - male and female - 5,560 mg/kg<br>(OECD Test Guideline 401)<br>LC50 Inhalation - Rat - male and female - 4 h - ><br>7.7mg/l - dust/mist<br>(OECD Test Guideline 403)<br>LD0 Dermal - Rabbit - male and female - 7,940 mg/kg<br>Remarks: (ECHA) |
| Skin corrosion/irritation         | Skin - Rabbit<br>Result: slight irritation<br>(OECD Test Guideline 404)   |
| Serious eye damage/eye irritation | Eyes - Rabbit<br>Result: Causes serious eye damage.<br>(OECD Test Guideline 405)  |
| Respiratory or skin sensitisation | Maximization Test - Guinea pig<br>Result: Does not cause skin sensitization.  |
| Germ cell mutagenicity            | Test Type: Ames test<br>Test system: <i>S. typhimurium</i><br>Metabolic activation: with and without metabolic activation<br>Method: OECD Test Guideline 471<br>Result: negative  |





|                        |   |
|------------------------|---|
|                        | Test Type: Chromosome aberration test in vitro              |
|                        | Test system: fibroblast                                     |
|                        | Metabolic activation: without metabolic activation          |
|                        | Result: negative  |
|                        | Test Type: In vitro mammalian cell gene mutation test       |
|                        | Test system: Chinese hamster fibroblasts                    |
|                        | Metabolic activation: with and without metabolic activation |
|                        | Method: OECD Test Guideline 476                             |
|                        | Result: negative  |
| Carcinogenicity        | No data available   |
| Reproductive toxicity  | No data available   |
| STOT-single exposure   | No data available   |
| STOT-repeated exposure | No data available   |
| Aspiration hazard      | No data available   |

#### Additional information

##### Product (Assessment):

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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## 12. Ecological information

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### 12.1 Toxicity

|   |   |
|---|---|
| Toxicity to fish  | static test LC0 - Brachydanio rerio (zebrafish) -<br>>= 1,000 mg/l - 96 h<br>Remarks: (ECHA)  |
| Toxicity to daphnia and other aquatic invertebrates                 | LC50 - Daphnia magna (Water flea) - 46 mg/l - 48 h<br>(OECD Test Guideline 202)   |
| Toxicity to algae   | static test ErC50 - Pseudokirchneriella subcapitata (green algae) -64.5 mg/l - 72 h<br>(OECD Test Guideline 201)<br>static test NOEC - Pseudokirchneriella subcapitata (green algae) -40.6 mg/l - 72 h<br>(OECD Test Guideline 201) |
| Toxicity to bacteria  | static test EC50 - activated sludge - 4,747 mg/l - 3 h<br>(OECD Test Guideline 209)   |
| Toxicity to daphnia and other aquatic invertebrates(Chror toxicity) | NOEC - Daphnia magna (Water flea) - 6.3 mg/l - 21 d<br>(OECD Test Guideline 211)  |



## 12.2 Persistence and degradability

|                           |   |
|---------------------------|---|
| Biodegradability          | aerobic - Exposure time 30 d<br>Result: 83 % - Readily biodegradable.<br>(OECD Test Guideline 301D) |
| Theoretical oxygen demand | 1,423 mg/g<br>Remarks: (IUCLID)   |
| Ratio BOD/ThBOD           | 36 %<br>Remarks: (Lit.)   |

## 12.3 Bioaccumulation potential

No data available

## 12.4 Mobility in soil

No data available

## 12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 12.6 Endocrine disrupting properties

### Product (Assessment):

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

## 12.7 Other adverse effects

Biological effects:

Harmful effect due to pH shift.

Discharge into the environment must be avoided.

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## 13. Disposal considerations

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### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions. Notice Directive on waste 2008/98/EC.





## **16.2 Full text of H-Statements referred to under sections 2 and 3**

H318

Causes serious eye damage

## **16.3 Additional information**

The information contained herein is in conformity with EU Directive EC 1907/2006 and EC 1272/2008, and is believed to be accurate and represents the best information currently available to us on the date of publication. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Valsynthese SA be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Valsynthese SA has been advised of the possibility of such damages.

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