

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Adipic acid > 99 %

Revision date: 31.05.2022

Product code: 27227

Page 1 of 11

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

### 1.1. Product identifier

Adipic acid > 99 %

REACH Registration Number: 01-2116457561-38-XXXX  
CAS No: 124-04-9  
Index No: 607-144-00-9  
EC No: 204-673-3

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

#### Use of the substance/mixture

Laboratory chemical  
Industrial uses: Uses of substances as such or in preparations at industrial sites  
Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

#### Uses advised against

Do not use for private purposes (household).

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

Company name: Fa. Bernd Kraft GmbH  
Street: Stempelstraße 6  
Place: D-47167 Duisburg  
Telephone: 0203/5194-0  
e-mail: info@berndkraft.de  
Contact person: Abteilung Produktsicherheit  
e-mail: produktsicherheit@berndkraft.de  
Internet: www.berndkraft.de  
Responsible Department: Abteilung Produktsicherheit  
Telefax: 0203/5194-290  
Telephone: 0203/5194-107/117

### 1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

### Further Information

No data available

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

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

Eye Irrit. 2; H319

Full text of hazard statements: see SECTION 16.

### 2.2. Label elements

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

Signal word: Warning

Pictograms:



#### Hazard statements

H319 Causes serious eye irritation.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Adipic acid > 99 %**

Revision date: 31.05.2022

Product code: 27227

Page 2 of 11

**Precautionary statements**

- P280  
P264  
P305+P351+P338  
P337+P313
- Wash ... thoroughly after handling.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If eye irritation persists: Get medical advice/attention.

**2.3. Other hazards**

No information available.

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

Sum formula: C6H10O4  
Molecular weight: 146,14 g/mol

**Hazardous components**

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
124-04-9	adipic acid			100 %
	204-673-3	607-144-00-9	01-2116457561-38-XXXX	
	Eye Irrit. 2; H319			

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
124-04-9	204-673-3	adipic acid	100 %
	oral: LD50 = 5560 mg/kg		

**Further Information**

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

**General information**

No data available

**After inhalation**

Provide fresh air.  
Call a doctor if you feel unwell.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap.  
Take off immediately all contaminated clothing and wash it before reuse.

**After contact with eyes**

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.  
Remove contact lenses, if present and easy to do. Continue rinsing.

**After ingestion**

Rinse mouth immediately and drink plenty of water.  
Call a physician immediately.

**Adipic acid > 99 %**

Revision date: 31.05.2022

Product code: 27227

Page 3 of 11

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

Irritant — skin irritation and eye damage  
Risk of serious damage to eyes.

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

No data available

**SECTION 5: Firefighting measures**

**5.1. Extinguishing media**

**Suitable extinguishing media**

Co-ordinate fire-fighting measures to the fire surroundings.

**Unsuitable extinguishing media**

no restriction

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

Combustible solids  
Vapours are heavier than air, spread along floors and form explosive mixtures with air.  
Hazardous combustion products  
Danger of dust explosion.

**5.3. Advice for firefighters**

In case of fire: Wear self-contained breathing apparatus.  
In case of fire and/or explosion do not breathe fumes.  
Avoid contact with skin, eyes and clothes.

**Additional information**

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.  
Move undamaged containers from immediate hazard area if it can be done safely.  
Use water spray jet to protect personnel and to cool endangered containers.

**SECTION 6: Accidental release measures**

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

**For non-emergency personnel**

Provide adequate ventilation.  
Use personal protection equipment.  
Avoid contact with skin, eyes and clothes.  
Remove persons to safety.  
Emergency procedures  
Do not breathe dust/fume/gas/mist/vapours/spray.

**For emergency responders**

Precautionary statements For emergency responders : Personal protection equipment: see section 8

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains.

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

**For containment**

Cover drains.  
Prevent spread over a wide area (e.g. by containment or oil barriers).  
Collect in closed and suitable containers for disposal.  
Take up carefully when dry. Take up dust-free and set down dust-free.

**For cleaning up**

Clean contaminated articles and floor according to the environmental legislation.

**Other information**

Provide adequate ventilation.  
Do not breathe dust/fume/gas/mist/vapours/spray.

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Adipic acid > 99 %**

Revision date: 31.05.2022

Product code: 27227

Page 4 of 11

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**6.4. Reference to other sections**

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

**SECTION 7: Handling and storage**

**7.1. Precautions for safe handling**

**Advice on safe handling**

Read label before use. Handle and open container with care.

When using do not eat, drink, smoke, sniff. Keep container tightly closed.

Use personal protection equipment. Do not breathe dust.

Wash hands and face before breaks and after work and take a shower if necessary. Take off immediately all contaminated clothing and wash it before reuse.

**Advice on protection against fire and explosion**

Danger of dust explosion.

**Advice on general occupational hygiene**

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

**Further information on handling**

Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary.

Take off immediately all contaminated clothing and wash it before reuse.

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

**Requirements for storage rooms and vessels**

storage temperature : 15°C - 25°C

**Further information on storage conditions**

Keep container tightly closed.

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

Laboratory chemicals

**SECTION 8: Exposure controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fib/cm <sup>3</sup>	Category	Origin
124-04-9	Adipic acid	-	5		TWA (8 h)	

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Adipic acid > 99 %**

Revision date: 31.05.2022

Product code: 27227

Page 5 of 11

**DNEL/DMEL values**

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
124-04-9	adipic acid		
Worker DNEL, long-term	inhalation	systemic	264 mg/m <sup>3</sup>
Worker DNEL, acute	inhalation	systemic	264 mg/m <sup>3</sup>
Worker DNEL, long-term	inhalation	local	5 mg/m <sup>3</sup>
Worker DNEL, acute	inhalation	local	5 mg/m <sup>3</sup>
Worker DNEL, long-term	dermal	systemic	38 mg/kg bw/day
Worker DNEL, acute	dermal	systemic	38 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	65 mg/m <sup>3</sup>
Consumer DNEL, acute	inhalation	systemic	65 mg/m <sup>3</sup>
Consumer DNEL, long-term	dermal	systemic	19 mg/kg bw/day
Consumer DNEL, acute	dermal	systemic	19 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	19 mg/kg bw/day
Consumer DNEL, acute	oral	systemic	19 mg/kg bw/day

**PNEC values**

CAS No	Substance	
Environmental compartment	Value	
124-04-9	adipic acid	
Freshwater	0,126 mg/l	
Freshwater (intermittent releases)	0,46 mg/l	
Marine water	0,013 mg/l	
Freshwater sediment	0,484 mg/kg	
Marine sediment	0,048 mg/kg	
Micro-organisms in sewage treatment plants (STP)	59,1 mg/l	
Soil	0,023 mg/kg	

**8.2. Exposure controls**

**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

If handled uncovered, arrangements with local exhaust ventilation have to be used.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection**

Suitable eye protection: goggles.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: [vertrieb@kcl.de](mailto:vertrieb@kcl.de) With specification (test according to EN374):

**Adipic acid > 99 %**

Revision date: 31.05.2022

Product code: 27227

Page 6 of 11

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with permanent contact: > 480 min

By short-term hand contact

Trade name/designation: KCL 741 Dermatril® L  
Recommended material: NBR (Nitrile rubber) 0,11 mm  
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. 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: www.kcl.de).

**Skin protection**

Wear suitable protective clothing.

**Respiratory protection**

Filtering device with filter or ventilator filtering device of type: P1  
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**SECTION 9: Physical and chemical properties**

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

Physical state: solid  
Colour: colourless  
Odour: odourless  
Odour threshold: No data available

**Changes in the physical state**

Melting point/freezing point: 150-153 °C  
Boiling point or initial boiling point and boiling range: 337,5 °C  
Sublimation point: No data available  
Softening point: No data available  
Pour point: No data available  
No data available:  
Flash point: 196 °C

**Flammability**

Solid/liquid: No data available  
Gas: not applicable

**Explosive properties**

Danger of dust explosion.

Lower explosion limits: 60 g/m<sup>3</sup>  
Upper explosion limits: not determined  
Auto-ignition temperature: 420 °C

**Self-ignition temperature**

Solid: No data available  
Gas: not applicable

**Adipic acid > 99 %**

Revision date: 31.05.2022

Product code: 27227

Page 7 of 11

Decomposition temperature:	not determined
pH-Value (at 20 °C):	2,7
Viscosity / dynamic:	No data available
Viscosity / kinematic:	No data available
Flow time:	No data available
Water solubility: (at 20 °C)	15 g/L
<b>Solubility in other solvents</b> not determined	
Partition coefficient n-octanol/water:	not determined
Vapour pressure: (at 20 °C)	1,3 hPa hPa
Vapour pressure: (at 50 °C)	0,097 hPa hPa
Density:	1,36 g/cm <sup>3</sup>
Bulk density (at 20 °C):	0,7 kg/m <sup>3</sup>
Relative vapour density:	not determined

**9.2. Other information**

**Information with regard to physical hazard classes**

Sustaining combustion:	No data available
Oxidizing properties Not oxidising.	

**Other safety characteristics**

Solvent separation test:	No data available
Solvent content:	0
Solid content:	not determined
Evaporation rate:	not determined

**Further Information**

No data available

**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

Danger of dust explosion.  
Vapours may form explosive mixtures with air.

**10.2. Chemical stability**

The product is stable under storage at normal ambient temperatures.

**10.3. Possibility of hazardous reactions**

Oxidising agent  
Reducing agent  
Alcohols  
aldehydes  
Alkali (lye)

**10.4. Conditions to avoid**

Radiant heat.

**10.5. Incompatible materials**

Steel

**Adipic acid > 99 %**

Revision date: 31.05.2022

Product code: 27227

Page 8 of 11

**10.6. Hazardous decomposition products**

No known hazardous decomposition products.

**Further information**

No data available

**SECTION 11: Toxicological information**

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

**Toxicokinetics, metabolism and distribution**

No data available

**Acute toxicity**

Based on available data, the classification criteria are not met.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
124-04-9	adipic acid				
	oral	LD50 mg/kg	5560	Rat	Study report (1978) OECD Guideline 401

**Irritation and corrosivity**

Causes serious eye irritation.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**

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.

**Specific effects in experiment on an animal**

No data available

**Additional information on tests**

No data available

**Practical experience**

No data available

**11.2. Information on other hazards**

**Other information**

No data available

**Further information**

No data available

**SECTION 12: Ecological information**

**12.1. Toxicity**

The product is not: Ecotoxic.



**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

**Adipic acid > 99 %**

Revision date: 31.05.2022

Product code: 27227

Page 9 of 11

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
124-04-9	adipic acid					
	Acute fish toxicity	LC50	230 mg/l	96 h	Leuciscus idus	Study report (1980) DIN-Standard 38412 Part 15
	Acute algae toxicity	ErC50	59 mg/l	72 h	Pseudokirchneriella subcapitata	Review article or handbook (1997) OECD Guideline 201
	Acute crustacea toxicity	EC50	46 mg/l	48 h	Daphnia magna	Review article or handbook (1997) OECD Guideline 202
	Crustacea toxicity	NOEC	6,3 mg/l	21 d	Daphnia magna	Review article or handbook (1997) OECD Guideline 211
	Acute bacteria toxicity	(EC50 mg/l)	4747	3 h	Activated sludge	Study report (1988) OECD Guideline 209

**12.2. Persistence and degradability**

The product has not been tested.

**12.3. Bioaccumulative potential**

The product has not been tested.

**Partition coefficient n-octanol/water**

CAS No	Chemical name	Log Pow
124-04-9	adipic acid	0,093

**BCF**

CAS No	Chemical name	BCF	Species	Source
124-04-9	adipic acid	3,162	none, estimated by calculation	Study report (2009)

**12.4. Mobility in soil**

The product has not been tested.

**12.5. Results of PBT and vPvB assessment**

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

The product has not been tested.

**12.6. Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**12.7. Other adverse effects**

Do not allow to enter into surface water or drains.

**Further information**

Discharge into the environment must be avoided.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

**Disposal recommendations**

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

Send to a physico-chemical treatment facility under observation of official regulations.

Do not empty into drains.

**Contaminated packaging**

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information**

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Adipic acid > 99 %

Revision date: 31.05.2022

Product code: 27227

Page 10 of 11

#### Land transport (ADR/RID)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

#### Inland waterways transport (ADN)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

#### Marine transport (IMDG)

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

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

<b>14.1. UN number or ID number:</b>	No dangerous good in sense of this transport regulation.
<b>14.2. UN proper shipping name:</b>	No dangerous good in sense of this transport regulation.
<b>14.3. Transport hazard class(es):</b>	No dangerous good in sense of this transport regulation.
<b>14.4. Packing group:</b>	No dangerous good in sense of this transport regulation.

#### 14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

#### 14.6. Special precautions for user

No information available.

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

not applicable

## SECTION 15: Regulatory information

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

#### National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	1 - slightly hazardous to water

### 15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out.

## SECTION 16: Other information

### Changes

This data sheet contains changes from the previous version in section(s): 1,3,4,7,9,11,12,14.

### 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 Harmonized 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  
LC50: Lethal concentration, 50%

## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### Adipic acid > 99 %

Revision date: 31.05.2022

Product code: 27227

Page 11 of 11

LD50: Lethal dose, 50%

#### Relevant H and EUH statements (number and full text)

H319 Causes serious eye irritation.

#### Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.