

Safety data sheet

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BASF Safety data sheet
Date / Revised: 30.03.2023
Product: **Adipic Acid - G**

Version: 1.0

(30042497/SDS_GEN_AR/EN)

Date of print 10.10.2025

1. Substance/preparation and company identification

Adipic Acid - G

Recommended use: for the production of homopolymerisates and copolymerisates, initial product for chemical syntheses

Not recommended use: food additive(s)

Company:

BASF Argentina S.A.
Tucumán 1
CP1049 Buenos Aires, ARGENTINA
Telephone: +54 11 4317-9600
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Telephone: 0800 444 9998/+55 12 3128-1590

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Serious eye damage/eye irritation: Cat. 1

Hazardous to the aquatic environment - acute: Cat. 3

Label elements

According to UN GHS criteria

Pictogram:



Signal Word:
Danger

Hazard Statement:
H318 Causes serious eye damage.
H402 Harmful to aquatic life.

Precautionary Statements (Prevention):
P280 Wear eye and face protection.
P273 Avoid release to the environment.

Precautionary Statements (Response):
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER or physician.

Precautionary Statements (Disposal):
P501 Dispose of contents and container to hazardous or special waste collection point.

Other hazards

According to UN GHS criteria

Other Hazards (GHS):
No specific dangers known, if the regulations/notes for storage and handling are considered.

Assessment PBT / vPvB:

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative).. Self classification

3. Composition/Information on Ingredients

Substances

Chemical nature

adipic acid

CAS Number: 124-04-9
EC-Number: 204-673-3
INDEX-Number: 607-144-00-9

Hazardous ingredients (GHS)
According to UN GHS criteria

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adipic acid

Content (W/W): $\geq 75\%$ - $\leq 100\%$

CAS Number: 124-04-9

EC-Number: 204-673-3

INDEX-Number: 607-144-00-9

Serious eye damage/eye irritation: Cat. 1

Hazardous to the aquatic environment - acute:

Cat. 3

H318, H402

For hazard statements not written out in full in this section, the full text is listed in section 16.

4. First-aid measures

General advice:

Remove contaminated clothing. Avoid contact with the skin, eyes and clothing.

If inhaled:

If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention.

On skin contact:

Wash thoroughly with soap and water

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Note to physician:

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-fighting measures

Suitable extinguishing media:

water spray, dry powder, foam, carbon dioxide

Specific hazards:

No particular hazards known.

Further information:

Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems.

6. Accidental release measures

Personal precautions, protective equipment and emergency measures

Personal precautions:

Avoid dust formation. Sources of ignition should be kept well clear. Use breathing apparatus if exposed to vapours/dust/aerosol. Information regarding personal protective measures, see section 8.

Environmental precautions:

Discharge into the environment must be avoided. Do not empty into drains. Retain and dispose of contaminated wash water.

Methods for cleaning up or taking up:

For large amounts: Sweep/shovel up. Dispose of contaminated material as prescribed.

For residues: Rinse away with water.

7. Handling and storage

Handling

Technical measures:

Handle in accordance with good industrial hygiene and safety practice.

Fire and explosion protection:

Avoid dust formation. The product is capable of dust explosion. Sources of ignition should be kept well clear. Take precautionary measures against static discharges.

Precautions/ Advice on safe handling:

Ensure thorough ventilation of stores and work areas. Avoid contact with skin and eyes. Wear suitable protective clothing and eye/face protection. Handle in accordance with good industrial hygiene and safety practice.

Specific hygiene measures:

Take off immediately all contaminated clothing. At the end of the shift the skin should be cleaned and skin-care agents applied.

Dust explosion class: Dust explosion class 2 (Kst-value 200 up to 300 bar m s⁻¹).

Storage

Technical measures:

Storage stability:

Tends to cake.

Further information on storage conditions: Containers should be stored tightly sealed in a dry place.

Incompatible products and materials:

Segregate from alkalies and alkalizing substances.

Suitable materials for containers: Stainless steel 1.4401, Stainless steel 1.4301 (V2), Aluminium, Polyester resin, glass reinforced (Palatal A410), Paper/Fibreboard, High density polyethylene (HDPE), glass, Low density polyethylene (LDPE)

8. Exposure controls and personal protection

Specific control parameters

Components with occupational exposure limits:

124-04-9: adipic acid

TWA value 5 mg/m³ (ACGIHTLV)

TWA value 5 mg/m³ (OEL (AR))

Personal protective equipment

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Skin and body protection:

Standard work clothes and shoes.

Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

butyl rubber (butyl) - 0.7 mm coating thickness

Manufacturer's directions for use should be observed because of great diversity of types.

Respiratory protection:

Breathing protection if breathable aerosols/dust are formed. Particle filter with low efficiency for solid particles (e.g. EN 143 or 149, Type P1 or FFP1)

9. Physical and chemical properties

State of matter:	solid (20 °C, 1.013 hPa)	
Form:	crystalline	
Colour:	white	
Odour:	odourless	
pH value:	2,7 (23 g/l, 25 °C)	(pH Meter)
	3,2 (10 g/l)	
pK _A :	4,43 (20 °C)	
Specific temperatures or	temperature ranges at which changes in physical state occur	
Melting point:	150,85 °C	(Directive 92/69/EEC, A.1)
Boiling point:	337,5 °C (1.013 hPa)	
	Literature data.	
Sublimation point:	No applicable information available.	

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Flash point:	196 °C Literature data.	(closed cup)
Lower explosion limit:	No data available.	
Upper explosion limit:	No data available.	
Thermal decomposition:	No data available.	
Self heating ability:	It is not a substance capable of spontaneous heating.	
Minimum ignition energy:	10 - 30 mJ	(DIN EN 13821)
Explosion hazard:	Product is not explosive, however a dust explosion could result from an air / dust mixture.	(Directive 92/69/EEC, A.14)
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	
Vapour pressure:	0,097 hPa (18,5 °C) Literature data.	
Relative vapour density (air):	No data available.	
Density:	1,36 g/cm ³ (25 °C) Literature data.	
Bulk density:	approx. 700 kg/m ³	(other)
Relative density:	1,36 (25 °C) Literature data.	
Solubility in water:	Literature data. 23 g/l, (25 °C)	
Solubility (qualitative) solvent(s):	organic solvents soluble	
Partitioning coefficient n-octanol/water (log Pow):	0,093 (25 °C; pH value: 3,3)	(measured)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	
Self-ignition temperature:	405 °C	(DIN 51794)
Self ignition:	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.
	Temperature: > 400 °C	Test type: Self-ignition at high temperatures. (Method: Directive 92/69/EEC, A.16)
Odour threshold limit value:	No data available.	
Evaporation rate:	The product is a non-volatile solid.	
Flammability:	not highly flammable	(Directive 92/69/EEC, A.10)

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Viscosity, dynamic: No data available.

Viscosity, kinematic: No data available.

Grain size distribution: 60 µm (D50, Volumetric Distribution, other (measured))

particles ≤ 4,19 µm	2,76 %
particles ≤ 10,48 µm	8,79 %
particles ≤ 103,58 µm	78,08 %

Molar mass: 146,14 g/mol

Corrosion to metals: No corrosive effect on metal.

10. Stability and reactivity

Chemical stability:
The product is stable if stored and handled as prescribed/indicated.

Hazardous reactions:
Reacts with basic components to generate heat. Dust explosion hazard.

Conditions to avoid:
Avoid dust formation. Avoid deposition of dust. See SDS section 7 - Handling and storage.

Incompatible materials and substances:
alkaline reactive substances

Thermal decomposition products:
No hazardous decomposition products if stored and handled as prescribed/indicated., Incomplete combustion results in formation of toxic gases, containing mainly carbon monoxide and carbon dioxide.

11. Toxicological information

Acute toxicity

Assessment of acute toxicity:
Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

LD50 rat, male/female(oral): approx. 5.560 mg/kg (BASF-Test)

LC50 rat (by inhalation): > 7,7 mg/l 4 h (BASF-Test)
An aerosol was tested.

LD50 rabbit, male/female (dermal): > 7.940 mg/kg (other)

Local effects

Assessment of irritating effects:

Not irritating to the skin. May cause severe damage to the eyes.

Primary skin irritation rabbit: non-irritant (BASF-Test)

Eye irritation rabbit: Risk of serious damage to eyes. (OECD Guideline 405)

Assessment other acute effects

Assessment other acute effects:

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

Sensitization

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies. A sensitizing effect on particularly sensitive individuals cannot be excluded.

guinea pig: Non-sensitizing. (other)

Genetic toxicity

Assessment of mutagenicity:

The substance was not mutagenic in mammalian cell culture. No mutagenic effect was found in various tests with microorganisms and mammals.

Carcinogenicity

Assessment of carcinogenicity:

In long-term animal studies in which the substance was given in high concentrations by feed, a carcinogenic effect was not observed.

Reproductive toxicity

Assessment of reproduction toxicity:

No effects have been reported in reproductive organs in long term animal studies.

Developmental toxicity

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Repeated dose toxicity

Assessment of repeated dose toxicity:

Repeated oral uptake of the substance did not cause substance-related effects.

Aspiration Hazard

Assessment of Aspiration Hazard:

No aspiration hazard expected.

12. Ecological information

Possible environmental effects, behaviour and fate

Ecotoxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:

LC0 (96 h) \geq 1.000 mg/l, *Brachydanio rerio* (other, static)

Nominal values (confirmed by concentration control analytics)

Aquatic invertebrates:

LC50 (48 h) 46 mg/l, *Daphnia magna* (OECD Guideline 202, part 1)

Nominal concentration.

Aquatic plants:

EC50 (72 h) 64,5 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)

Nominal concentration.

No observed effect concentration (72 h) 40,6 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)

Nominal concentration.

Microorganisms/Effect on activated sludge:

EC50 (3 h) $>$ 100 mg/l, activated sludge (OECD Guideline 209, aerobic)

Chronic toxicity to fish:

Study scientifically not justified.

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (21 d), 6,3 mg/l, *Daphnia magna* (OECD Guideline 211)

Nominal concentration.

Assessment of terrestrial toxicity:

No data available.

Study scientifically not justified.

Persistence and degradability

Assessment biodegradation and elimination (H₂O):

Readily biodegradable (according to OECD criteria).

Elimination information:

83 % BOD of the ThOD (30 d) (OECD 301D; EEC 92/69, C.4-E) (aerobic, domestic sewage)

Literature data.

Expected behaviour of the product in the environment/possible environmental impact

Assessment of stability in water:
According to structural properties, hydrolysis is not expected/probable.

Bioaccumulation

Assessment bioaccumulation potential:
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Bioaccumulation potential:
Bioconcentration factor: 3,16 (calculated)
Accumulation in organisms is not to be expected.

Mobility

Assessment transport between environmental compartments:
The substance will not evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.
Adsorption/water - soil: KOC: 1,61; log KOC: 0,21 (calculated)

Additional information

Other ecotoxicological advice:
Do not release untreated into natural waters.

13. Disposal considerations

Methods for safe and environmentally preferred disposal
Product: Incinerate in suitable incineration plant, observing local authority regulations.

Product residues: Incinerate in suitable incineration plant, observing local authority regulations.

Contaminated packaging:
Uncleaned empties should be disposed of in the same manner as the contents.

14. Transport information

Land transport

Not classified as a dangerous good under transport regulations

Waterway Transport

IMDG

Not classified as a dangerous good under transport regulations

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Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

Additional Information

Classification of land transport generated according to the criteria of Resolution 64:2022.

15. Regulatory information**Other regulations**

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

This SDS (Safety Data Sheet) is in accordance with the requirement of the Resolution 801/15 of the SRT

16. Other information

Full text of hazard statements, if mentioned in section 3:

H318 Causes serious eye damage.

H402 Harmful to aquatic life.

Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.