

Safety Data Sheet

Adipic Acid - G

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Version: 5.0

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(30042497/SDS_GEN_CA/EN)

1. Identification

Product identifier used on the label

Adipic Acid - G

Recommended use of the chemical and restriction on use

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

Unsuitable for use: food additive(s)

Not intended for sale to or use by the general public.

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF Canada Inc.
5025 Creekbank Road
Building A, Floor 2
Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Molecular formula:	C6 H10 O4
Chemical family:	No data available.
Synonyms:	ADIPIC ACID 1,6 Hexanedioic Acid

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

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Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Aquatic Acute	3	Hazardous to the aquatic environment - acute

Label elements

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/container in accordance with local regulations.
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Hazards not otherwise classified

No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

adipic acid

CAS Number: 124-04-9
Content (W/W): ≥ 75.0 - $\leq 100.0\%$
Synonym: Adipic acid

4. First-Aid Measures

Description of first aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air. Assist in breathing if necessary. Seek medical attention.

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If on skin:

Wash affected areas thoroughly with soap and water. Remove contaminated clothing. If irritation develops, seek medical attention.

If in eyes:

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Seek medical attention.

If swallowed:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause:, dyspnea, coughing

Indication of any immediate medical attention and special treatment needed

Note to physician

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

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

No particular hazards known.

Advice for fire-fighters

Further information:

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

Impact Sensitivity:

Method:

Explosive properties

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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.

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Methods and material for containment and cleaning up

For large amounts: Sweep/shovel up. Dispose of contaminated material as prescribed.
For residues: Rinse away with water.

7. Handling and Storage

Precautions for 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.

Protection against fire and explosion:

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

Conditions for safe storage, including any incompatibilities

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)

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

Storage stability:

Tends to cake.

8. Exposure Controls/Personal Protection

Components with occupational exposure limits

adipic acid ACGIH, US: TWA value 5 mg/m³ ;

Personal protective equipment

Respiratory protection:

Breathing protection if dusts are formed. Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:

Chemical resistant protective gloves

Eye protection:

Tightly fitting safety goggles (chemical goggles).

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

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General safety and hygiene measures:

Avoid inhalation of dusts. Eye wash fountains and safety showers must be easily accessible. Wear protective clothing as necessary to minimize contact. Handle in accordance with good industrial hygiene and safety practice. Wash soiled clothing immediately.

9. Physical and Chemical Properties

Form:	crystalline	
Odour:	of acetic acid	
Odour threshold:	No data available.	
Colour:	white	
pH value:	2.7 (23 g/l, 25 °C)	
	3.2 (10 g/l)	
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.	
Flash point:	196 °C	(closed cup)
	Literature data.	
Flammability:	not highly flammable	(Directive 92/69/EEC, A.10)
Lower explosion limit:	No data available.	
Upper explosion limit:	No data available.	
Autoignition:	405 °C	(DIN 51794)
Vapour pressure:	0.097 hPa (18.5 °C)	
	Literature data.	
Density:	1.36 g/cm ³ (25 °C)	
	Literature data.	
Relative density:	1.36 (25 °C)	
	Literature data.	
Bulk density:	approx. 700 kg/m ³	
Vapour density:	No data available.	
Partitioning coefficient n-octanol/water (log Pow):	0.093 (25 °C)	(measured)
Self-ignition temperature:	not self-igniting > 400 °C	(Directive 92/69/EEC, A.16)
Thermal decomposition:	No data available.	
Viscosity, dynamic:	No data available.	
Viscosity, kinematic:	No data available.	
Particle size:	approx. D50 60 µm	(measured)
Solubility in water:	23 g/l (25 °C)	
	Literature data.	
Solubility (qualitative):	soluble solvent(s): organic solvents,	
Molar mass:	146.14 g/mol	
Evaporation rate:	The product is a non-volatile solid.	

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10. Stability and Reactivity

Reactivity

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

Minimum ignition energy:
10 - 30 mJ (DIN EN 13821)

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.
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Chemical stability

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

Possibility of 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

alkaline reactive substances

Hazardous decomposition products

Decomposition products:

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.

Thermal decomposition:
No data available.

11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

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

Oral

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Type of value: LD50
Species: rat (male/female)
Value: approx. 5,560 mg/kg (BASF-Test)

Inhalation

Type of value: LC50
Species: rat
Value: > 7.7 mg/l (BASF-Test)
Exposure time: 4 h
An aerosol was tested.

Dermal

Type of value: LD50
Species: rabbit (male/female)
Value: > 7,940 mg/kg (other)

Assessment other acute effects

Assessment of STOT single:
Based on available data, the classification criteria are not met.

Irritation / corrosion

Assessment of irritating effects: May cause slight irritation to the skin. May cause severe damage to the eyes.

Skin

Species: rabbit
Result: non-irritant
Method: BASF-Test

Eye

Species: rabbit
Result: Risk of serious damage to eyes.
Method: OECD Guideline 405

Sensitization

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

Species: guinea pig
Result: Non-sensitizing.
Method: other

Aspiration Hazard

No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: Repeated oral uptake of the substance did not cause substance-related effects.

The substance may cause damage to the upper respiratory tract after repeated inhalation, as shown in animal studies. May affect the liver and kidneys as indicated in animal studies. May affect the central nervous system as indicated in animal studies.

Genetic toxicity

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Assessment of mutagenicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not genotoxic in mammalian cell culture. The substance was not genotoxic in a test with 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.

Teratogenicity

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

Medical conditions aggravated by overexposure

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See SDS section 11 - Toxicological information.

12. Ecological Information

Toxicity

Aquatic toxicity

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.

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.

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Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

OECD Guideline 209 aerobic

activated sludge/EC50 (3 h): > 100 mg/l

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.

Assessment of stability in water

According to structural properties, hydrolysis is not expected/probable.

Bioaccumulative potential

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 in soil

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.

Additional information

Other ecotoxicological advice:

Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:

Incinerate in suitable incineration plant, observing local authority regulations.

Container disposal:

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

14. Transport Information

Land transport

TDG

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Not classified as a dangerous good under transport regulations

Sea transport IMDG

Not classified as a dangerous good under transport regulations

Air transport IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:

Chemical DSL, CA released / listed

NFPA Hazard codes:

Health: 3 Fire: 1 Reactivity: 0 Special:

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Aquatic Acute	3	Hazardous to the aquatic environment - acute

16. Other Information

SDS Prepared by:

BASF NA Product Regulations
SDS Prepared on: 2022/10/19

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

END OF DATA SHEET