



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.80

Section 1 - Product and Company Information

Product Name	Adipic acid, 99%	
Product Number	A26357	
Brand	Aldrich Chemical	
Company	Sigma-Aldrich	
Street Address	3050 Spruce Street	
City, State, Zip, Country	SAINT LOUIS, MO 63103 US	
Technical Phone:	800-325-5832	Emergency Phone: 314-776-6555
Fax:	800-325-5052	

Section 2 - Composition/Information on Ingredient

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
ADIPIC ACID	124-04-9	No	204-673-3	607-144-00-9

Formula C6H10O4
Synonyms Acifloctin, Acinetten, Adilactetten, Adipic acid (ACGIH), Adipinic acid, 1,4-Butanedicarboxylic acid, Hexanedioic acid, 1,6-Hexanedioic acid, Kyselina adipova (Czech), Molten adipic acid

Section 3 - Hazards Identification

Emergency Overview

Irritant.
Irritating to eyes.

HMS Rating
 Health: 2 Flammability: 0 Reactivity: 0

NFPA Rating
 Health: 2 Flammability: 0 Reactivity: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of contact, immediately wash skin with soap and copious amounts of water.

Eye Exposure

In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Information for Physician

Contamination of the eyes should be treated by immediate and prolonged irrigation with copious amounts of water.

Section 5 - Fire Fighting Measures

Explosion Data Dust Potential

This material, like most materials in powder form, is capable of creating a dust explosion.

Flash Point: 385 °F 196 °C

Autoignition Temp: 420 °C

Extinguishing Media Suitable

Water spray, Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure(s) of Personal Precaution(s)

Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Environmental Precaution(s)

Avoid contaminating water supply. Avoid contaminating sewers and waterways with this material.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Keep tightly closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Mechanical exhaust required. Ventilate area - especially low places where heavy vapors might collect.

Personal Protective Equipment

Respiratory

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

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General Hygiene Measures

Wash thoroughly after handling. Wash contaminated clothing before reuse.

Exposure Limits

Country	Type	Value
Poland	NDS	5 mg/m ³
Poland	NDSC	10 mg/m ³
Poland	NDSP	

Remarks (OELS ARE VALID FOR DUSTS)**Exposure Limits, RTECS**

Country	Source	Type	Value
USA	ACGIH	TWA	5 MG/M ³
USA	ACGIH	TWA	5 MG/M ³

Section 9 - Physical/Chemical Properties

Appearance	Physical State	Color	Form
	Solid	White	Fine crystals
Molecular Weight	146.14 AMU		
Property	Value	At Temperature or Pressure	Other
pH	2 - 3	25 °C	Concentration: 249 g/l
BP/BP Range	265 °C	100 mmHg	
MP/MP Range	151 °C		
Freezing Point	N/A		
Vapor Pressure	1 mmHg	159.5 °C	
Vapor Density	5 g/l		
Saturated Vapor Conc.	N/A		
SG/Density	N/A		
Bulk Density	7 kg/l		
Odor Threshold	N/A		
Volatile%	N/A		
VOC Content	N/A		
Water Content	N/A		
Solvent Content	N/A		
Evaporation Rate	N/A		
Viscosity	N/A		
Partition Coefficient	Log Kow: 93	25 °C	
Decomposition Temp.	N/A		
Flash Point °F	385 °F		Method: closed cup
Flash Point °C	196 °C		Method: closed cup
Explosion Limits	N/A		
Flammability	N/A		
Autoignition Temp	420 °C		

Solubility**Solubility in Water:** Soluble
Solvent: 0.1 g/ml MeOH, clear, colorless

N/A = not available

Section 10 - Stability and Reactivity**Stability****Stable**

Stable.

Materials to Avoid

Strong oxidizing agents

Hazardous Decomposition Products**Hazardous Decomposition Products**

Carbon monoxide, Carbon dioxide

Hazardous Polymerization**Hazardous Polymerization**

Will not occur.

Section 11 - Toxicological Information**Route of Exposure****Skin Contact**

May cause skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes eye irritation.

Inhalation

May be harmful if inhaled.

Ingestion

May be harmful if swallowed.

Signs and Symptoms of Exposure

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

RTECS Number: AU8400000**Toxicity Data**

Oral - Rat: 5,050 mg/kg (LD50)

Skin - Rabbit: 7,940 mg/kg (LD50)

Oral - Rat: > 11000 mg/kg (LD50)

Intraperitoneal - Rat: 275 MG/KG (LD50)

Remarks: Behavioral: Somnolence (general depressed activity).

Gastrointestinal: Other changes.

Blood: Hemorrhage.

Oral - Mouse: 1900 mg/kg (LD50)

Remarks: Gastrointestinal: Other changes.

Intravenous - Mouse: 680 MG/KG (LD50)

Remarks: Behavioral: Convulsions or effect on seizure threshold.

Blood: Hemorrhage.

Oral - Rabbit: > 11000 mg/kg (LD50)

Irritation Data

Eyes - Rabbit 20 mg 24H
Remarks: Moderate irritation effect

Section 12 - Ecological Information

Acute Ecotoxicity Tests

Test Type

LC50 Fish

Species

Onchorhynchus mykiss (Rainbow trout)

Time: 48.0 h **Value:** 100 mg/l

Test Type

LC50 Fish

Species

Pimephales promelas (Fathead minnow)

Time: 96.0 h **Value:** 97 mg/l

Test Type

EC50 Daphnia

Species

Daphnia magna

Time: 48.0 h **Value:** 857 mg/l

Test Type

EC50 Algae

Species

Scenedesmus subspicatus

Time: 72.0 h **Value:** 313 mg/l

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.

UN#: 3077

Class: 9

Packing Group: Packing Group III

Hazard Label: Class 9

PIH: Not PIH

IATA

Non-Hazardous for Air Transport Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: Xi

Indication of Danger

Irritant.

Risk Statements R: 36
Irritating to eyes.

US Classification and Label Text

Indication of Danger

Irritant.

Risk Statements

Irritating to eyes.

Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes Yes

Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

Section 16 - Other Information

Disclaimer

For R&D use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice packing slip for additional terms and conditions of sale. Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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