

Adipic Acid

SECTION 1. IDENTIFICATION

Product Identifier	Adipic Acid
Other Means of Identification	1,4-Butanedicarboxylic acid, Adipinic acid, Hexanedioic acid
Product Code(s)	AD4110
Product Family	Organic solid
Recommended Use	Laboratory and industrial use.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0618

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Eye irritation - Category 2A; Specific target organ toxicity (single exposure) - Category 3

Label Elements



Signal Word:
Warning

Hazard Statement(s):

May cause respiratory irritation.
Causes serious eye irritation.

Precautionary Statement(s):

Use only outdoors or in a well-ventilated area.
Wash hands and skin thoroughly after handling.
Wear eye protection/face protection.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTRE/doctor/ if you feel unwell.
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 or attention.

Storage:

Store in a well-ventilated place. Keep container tightly closed.

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Store locked up.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers
Adipic acid	124-04-9	> 99	1,4-Butanedicarboxylic acid, Adipinic acid, Hexanedioic acid

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor.

Skin Contact

Rinse with lukewarm, gently flowing water for 5 minutes. If skin irritation occurs, get medical advice or attention.

Eye Contact

Rinse the contaminated eye(s) with lukewarm, gently flowing water for 5 minutes, while holding the eyelid(s) open. If eye irritation persists, get medical advice or attention.

Ingestion

Rinse mouth with water. Do not induce vomiting. Immediately call a Poison Centre or doctor.

First-aid Comments

Get medical advice or attention if you feel unwell or are concerned. All first aid procedures should be periodically reviewed by a doctor familiar with the material and its condition of use in the workplace.

Most Important Symptoms and Effects, Acute and Delayed

None known.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Use water to keep non-leaking, fire-exposed containers cool.

Unsuitable Extinguishing Media

Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific Hazards Arising from the Product

Heating increases the release of toxic vapour. Combustible dust. Powder may form explosive dust-air mixture. In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Dust explosion hazard. Use water spray or fog to prevent dust formation and minimize risk of

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explosion. Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles.

Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Small spills of solutions: contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal.

Small spills of solids: collect using shovel/scoop or approved HEPA vacuum and place in a suitable container for disposal. Flush spill area.

Large spills or leaks: contact emergency services and manufacturer/supplier for advice.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid generating dusts. Only use where there is adequate ventilation. Wear personal protective equipment to avoid direct contact with this chemical. Prevent accidental contact with incompatible chemicals. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep containers tightly closed when not in use or empty. Wash hands thoroughly after handling this product and before eating, using the washroom or leaving work area.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity). Protect from conditions listed in Conditions to Avoid in Section 10 (Stability and Reactivity). Store in a closed container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Adipic acid	5 mg/m3		Not established			

Appropriate Engineering Controls

For large scale use of this product: use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use a corrosion-resistant exhaust ventilation system separate from other ventilation systems. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

No specific guidelines are available. Contact chemical manufacturer/supplier for advice.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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Basic Physical and Chemical Properties

Appearance	Colourless white crystalline powder.
Odour	Odourless
Odour Threshold	Not applicable
pH	3.2 (0.1% solution)
Melting Point/Freezing Point	152.1 °C (305.8 °F) (melting); 152.1 °C (305.8 °F) (freezing)
Initial Boiling Point/Range	265 °C (509 °F)
Flash Point	196 °C (385 °F)
Evaporation Rate	~ 0
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	Not available (upper); Not available (lower)
Vapour Pressure	0.0097 kPa (0.0728 mm Hg)
Vapour Density (air = 1)	5.04
Relative Density (water = 1)	1.344
Solubility	Moderately soluble in water; Highly soluble in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	-0.13
Auto-ignition Temperature	420 °C (788 °F)
Decomposition Temperature	~ 330 °C (626 °F)
Viscosity	Not available (kinematic); 4.54 mPa.s (dynamic)
Other Information	
Physical State	Solid
Other Physical Property 1	Above Relative Density measured at 18 deg C.
Other Physical Property 2	Viscosity-Dynamic measured at 160 deg C.
Other Physical Property 3	Vapour Pressure measured at 18.5 deg C.

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

Decomposes in the presence of increased temperature.

Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. Generation of dust. Temperatures above 330.0 °C (626.0 °F)

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid), strong reducing agents (e.g. hydrides), strong bases (e.g. sodium hydroxide), alcohols (e.g. ethanol), epoxides (e.g. ethylene oxide), glycols (e.g. ethylene glycol), aldehydes (e.g. acetaldehyde).

Hazardous Decomposition Products

None known.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

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Inhalation; skin contact; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Adipic acid	Not available	> 5000 mg/kg (male rat)	Not available

Skin Corrosion/Irritation

No information was located.

Serious Eye Damage/Irritation

May cause serious eye irritation based on information for closely related materials.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May cause nose and throat irritation.

Ingestion

May cause irritation of the mouth, throat and stomach.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

May cause dermatitis. Symptoms may include dry, red, cracked skin (dermatitis).

Respiratory and/or Skin Sensitization

No information was located.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Adipic acid	Not evaluated	Not designated	Not Listed	

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

No information was located.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

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Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating **Health - 1** **Flammability - 1** **Instability - 0**

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

Date of Preparation July 18, 2016

Date of Last Revision July 18, 2016

References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.