



Safety Data Sheet
(Adipic acid
)

DATE PREPARED: 5/31/2012
REVISION NUMBER: 5/31/2012

Section 1 – Company Information

Parchem - fine & specialty chemicals
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EMERGENCY RESPONSE NUMBER:
CHEMTEL - Parchem CCN# M1S0007152
Toll Free US & Canada: (800)255-3924
All other Origins: (813) 248-0585
Collect Calls Accepted

Section 2 – Product Identification/ Information on Ingredients

PRODUCT NAME Adipic Acid
CAS NUMBER 124-04-9
SYNONYM Hexanedioic acid; 1,4-Butane Dicarboxylic Acid
FORMULA HOOC(CH₂)₄COOH

PRODUCT	CAS NUMBER	% BY WEIGHT
Adipic acid	124-04-9	100%

Section 3 – Hazards Identification

Classification of the substance/preparation

EC Classification Xi - Irritant
Safety Phrase S22, S25, S26

Emergency Overview

Appearance and Odor: White crystalline powder; characteristic odor

Warning Statements

WARNING!
MAY CAUSE EYE AND RESPIRATORY TRACT IRRITATION
COMBUSTIBLE DUST - EXPLOSION POTENTIAL

Potential Health Effects

Likely Routes of Exposure: Eye and skin contact, inhalation.

EYE CONTACT: Moderately irritating to eyes. Dust may cause eye irritation as would any foreign material.

SKIN CONTACT: No more than slightly irritating to skin. No more than slightly toxic if absorbed.

INHALATION: Moderately irritating if inhaled.

INGESTION: No more than slightly toxic if swallowed. Significant adverse health effects are not expected to develop if only small amounts (less than a mouthful) are swallowed.

Refer to Section 11 for toxicological information.



Section 4 – First Aid Measures

IF IN EYES, immediately flush with plenty of water. If easy to do, remove contact lenses. Get medical attention if irritation persists. Remove material from eyes, skin, and clothing. Wash heavily contaminated clothing before reuse.

IF ON SKIN, immediate first aid is not likely to be required. This material can be removed with soap and water.

IF INHALED, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Remove material from eyes, skin and clothing.

IF SWALLOWED, immediate first aid is not likely to be required. A physician or Poison Control Center can be contact for advice. Wash heavily contaminated clothing before reuse.

Section 5 – Fire Fighting Measures

Flash Point: 385° F (196° C) Method: Cleveland Open Cup

Fire Point: 450° F (232° C) Method: Cleveland Open Cup

Autoignition Temperature: 550° C

Hazardous Products of Combustion: As with any organic material, carbon dioxide, carbon monoxide, smoke and soot can be produced.

Extinguishing Media: In case of fire, use water spray (fog), foam, dry chemical, or CO₂.

Unusual Fire and Explosion Hazards: This material may contain enough fines to form an explosive mixture if mixed with a sufficient quantity of air.

Fire Fighting Equipment: Fire fighters and others exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

Section 6 – Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Keep out of drains and water courses.

Methods for Cleanup: In case of spill, do not blow material. Use vacuum equipment designed specifically for handling combustible dusts. Flush spill area with water.

Refer to Section 13 for disposal information and Sections 14 and 15 for reportable quantity information.

Section 7 – Handling & Storage

Avoid contact with eyes, skin and clothing.

Avoid breathing dust.

Keep container closed.

Use with adequate ventilation.

Wash thoroughly after handling.



Keep away from heat, sparks and flame.
Avoid creating a dust cloud in handling, transfer and clean up.
Emptied container retains product residue. Observe all recommended safety precautions until container is cleaned, reconditioned, or destroyed. Do not cut or weld on or near this container, even when empty. Container retains vapor and product residue. The reuse of this material's container for non-industrial purposes is prohibited and any reuse must be in consideration of the data provided in the MSDS.

Section 8 – Exposure Controls & Personal Protection

EYE PROTECTION: Wear chemical goggles. Have eye flushing equipment available.
SKIN PROTECTION: Although this material does not present a significant skin concern, minimize skin contamination by following good industrial practice. Wearing of protective gloves is recommended. Consult the glove/clothing manufacturer to determine the appropriate type of glove/clothing for a given application. Wash contaminated skin thoroughly after handling.
RESPIRATORY PROTECTION: Avoid breathing dust. Use NIOSH/MSHA approved respiratory protection equipment when airborne exposure limits are exceeded (see below). Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. If used, full face-piece replaces the need for face shield and/or chemical goggles. Respiratory protection programs must comply with 29 CFR 1910.134.
VENTILATION: Provide natural or mechanical ventilation to control exposure levels below airborne exposure limits (see below). The use of local mechanical exhaust ventilation at sources of air contamination such as open process equipment is preferred. Consult NFPA Standard 91 for design of exhaust systems.

Airborne Exposure Limits:

<u>Product/Component</u>	<u>OSHA PEL</u>	<u>ACGIG TLV</u>
Adipic Acid	None Established	5 mg/m ³

Section 9 – Physical & Chemical Properties

Appearance:	White crystalline powder
Autoignition Temperature:	550° C
Melting Point:	152° C
Boiling Point:	337.5° C
Solubility in Water:	19.0 g/L @ 20° C 830 g/L @ 90° C

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as guaranteed analysis of any specific lot or as



specifications for the product.

Section 10 – Stability & Reactivity Data

Stability: Product is stable under normal conditions of storage and handling.

Materials to Avoid: None known.

Conditions to Avoid: All sources of ignition.

Hazardous Polymerization: Does not occur.

Hazardous Decomposition Products: None known.

Section 11 – Toxicological Information

Data from Manufacturer's studies and from available scientific literature indicate the following:

Single dose (acute) studies indicate:

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

Dermal - Practically Nontoxic (Rabbit LD₅₀ - >7,940 mg/kg)

Eye Irritation - Moderately Irritating (Rabbit, 18.2/110.0)

Skin Irritation - Practically Nonirritating (Rabbit, 4 hr. exposure, 0.0/8.0)

Repeat dose toxicity: rat, inhalation: No adverse effects reported in repeat dose studies.

Developmental Toxicity:

Mouse, diet: No birth defects were noted in rats given the active ingredient orally during pregnancy

Rat, diet: No birth defects were noted in rats given the active ingredient orally during pregnancy

Hamster, diet: No birth defects were noted in rats given the active ingredient orally during pregnancy

Carcinogenicity: Rat, diet, 24 months: No tumors.

Mutagenicity: No genetic effects were observed in standard tests using bacterial cells and whole animals.

This material has been defined as a hazardous chemical under the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Section 12 – Ecological Information

Environmental Toxicity

Fish: 48h, LC₅₀ Rainbow trout (*oncorhynchus mykiss*) > 100 mg/L

96 h, LC₅₀ Fathead minnow (*pimephales promelas*) 97 mg/L



Environmental Fate

Biodegradation: Readily biodegradable.

Section 13 – Disposal Consideration

This material when discarded is not a hazardous waste as that term is defined by the Resource, Conservation and Recovery Act (RCRA), 40 CFR 261. Dispose of by landfill, incineration or recycle in accordance with local, state and federal regulations. Consult your attorney or appropriate regulatory officials for information on such disposal. This product should not be dumped, spilled, rinsed or washed into sewers or public waterways.

Section 14 – Transportation Data

The data provided in this section is for information only. Please apply the appropriate regulations to properly classify your shipment for transportation.

US DOT

Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s. (adipic acid)*
Hazard Class: 9
Hazard Identification Number: UN3077
Packing Group: III
Transport Label: Class 9

Canadian TDG - Not Regulated

US DOT RQ: 5000 lbs adipic acid. Package size containing reportable amount: 5000 lbs. Release of more than the Reportable Quantity to the environment in a 24 hour period requires notification to the National Response Center (800-424-8802 or 202-426-2675)

* Applies ONLY to containers which contain an RQ or RL.

Section 15 – Regulatory Information

EC Label

Hazard Symbol:	Xi - Irritant
R36	Irritating to eyes.
S22	Do not breathe dust.
S25	Avoid contact with eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice



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Chemical Inventory

TSCA Inventory: Listed
DSL Inventory: Listed
EU: Listed
Australia: Listed
Korea: Listed
Japan: Listed
Philippines: Listed
China: Listed

WHMIS Classification: D2(B) - Materials Causing Other Toxic Effects

SARA Hazard Notification

Hazard Categories Under Title III Rules (40 CFR 370):	Immediate
Section 302 Extremely Hazardous Substances:	Not Applicable
Section 313 Toxic Chemical(s):	Not Applicable

CERCLA Reportable Quantity: 5000 lbs

Refer to Section 11 for OSHA Hazardous Chemical(s) and Section 13 for RCRA classification

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation and the MSDS contains all the information required by the Canadian Controlled Products Regulation.

Section 16 – Other Information

	<u>Health</u>	<u>Fire</u>	<u>Reactivity</u>	<u>Additional Information</u>
Suggested NFPA Rating:	2	1	0	
Suggested HMIS Rating:	2	1	0	E

Disclaimer

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.