ADIPIC ACID
MATERIAL SAFETY DATA SHEET

1. Product Identification

Synonyms: Hexanedioic acid; 1, 4-butanedicarboxylic acid.
CAS No.: 124-04-9
Molecular Weight: 146.14
Chemical Formula: C6H10O4
Product Codes: 1801

2. Composition/Information on Ingredients

Ingredient	CAS No	Percent	Hazardous
Adipic Acid	124-04-9	100%	Yes

3. Hazards Identification

Emergency Overview

CAUTION! CAUSES MODERATE EYE IRRITATION. MAY CAUSE IRRITATION TO SKIN AND RESPIRATORY TRACT. MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR.

SAF-T-DATA(tm) Ratings (Provided here for your convenience)
Health Rating: 1 - Slight
Flammability Rating: 2 - Moderate
Reactivity Rating: 0 - None
Contact Rating: 2 - Moderate
Lab Protective Equip: GOGGLES; LAB COAT; VENT HOOD; PROPER GLOVES
Storage Color Code: Green (General Storage)

Potential Health Effects

Inhalation:
Inhalation of dust may irritate the respiratory tract. May cause coughing and sneezing.

Ingestion:
Based on animal data, this material is presumed to be only slightly toxic.

Skin Contact:
May irritate the skin. Prolonged or repeated skin contact may cause dermatitis.

Eye Contact:
Causes moderate eye irritation with redness and pain.

Chronic Exposure:
No information found.

Aggravation of Pre-existing Conditions:
No information found.

4. First Aid Measures

Inhalation:
Remove to fresh air. Get medical attention for any breathing difficulty.

Ingestion:
DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Call a physician immediately.

Skin Contact:
Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:

Flash point: 196C (385F) CC

Autoignition temperature: 420C (788F)

Slight fire hazard when exposed to heat or flame.

Explosion:

Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Minimum explosible concentration in air (dust): 10-15 mg/L.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Remove all sources of ignition. Ventilate area of leak or spill. Wear appropriate personal protective equipment as specified in Section 8. Spills: Clean up spills in a manner that does not disperse dust into the air. Use non-sparking tools and equipment. Reduce airborne dust and prevent scattering by moistening with water. Pick up spill for recovery or disposal and place in a closed container. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from incompatible substances. Avoid dust formation and control ignition sources. Employ grounding, venting and explosion relief provisions in accord with accepted engineering practices in any process capable of generating dust and/or static electricity. Empty only into inert or non-flammable atmosphere. Emptying contents into a non-inert atmosphere where flammable vapors may be present could cause a flash fire or explosion due to electrostatic discharge.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

- ACGIH Threshold Limit Value (TLV): 5 mg/m3 (TWA)

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

If the exposure limit is exceeded and engineering controls are not feasible, a full facepiece particulate respirator (NIOSH type N100 filters) may be worn for up to 50 times the exposure limit or the maximum use concentration specified

by the appropriate regulatory agency or respirator supplier, whichever is lowest. If oil particles (e.g. lubricants, cutting fluids. glycerine, etc.) are present, use a NIOSH type R or P filter. For emergencies or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:

Rubber gloves and lab coat, apron or coveralls.

Eye Protection:

Use chemical safety goggles and/or full face shield where dusting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: White crystals.
Odor: Odorless.
Solubility: Slightly soluble in water.
Density: 1.36
pH: 3.2 (0.1% aq. soln.) @ 25C
% Volatiles by volume @ 21C (70F): 0
Boiling Point: 337C (639F) @ 760 mm Hg (Decomposes)
Melting Point: 152C (306F)
Vapor Density (Air=1): 5.04
Vapor Pressure (mm Hg): 1 @ 159.5C (320F)
Evaporation Rate (BuAc=1): No information found.

10. Stability and Reactivity

Stability: Stable under ordinary conditions of use and storage.
Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide may form when heated to decomposition.

Hazardous Polymerization: Will not occur.
Incompatibilities: Can react with oxidizing materials.
Conditions to Avoid: Air, heat, and dusting conditions.

11. Toxicological Information

Oral rat LD50: > 11g/kg. Irritation eye rabbit: 20 mg/24H moderate. Investigated as a mutagen.

Cancer Lists

	---NTP Carcinogen---		
Ingredient	Known	Anticipated	IARC Category
Adipic Acid (124-04-9)	No	No	None

12. Ecological Information

Environmental Fate:

When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material is not expected to evaporate significantly. When released into water, this material is expected to readily biodegrade. When released into the water, this material is expected to have a half-life between 1 and 10 days. This material has a log octanol-water partition coefficient of less than 3.0. This material is not expected to significantly bioaccumulate. When released into water, this material is not expected to evaporate significantly. When released into the air, this material may be

moderately degraded by reaction with photochemically produced hydroxyl radicals.

Environmental Toxicity:

This material is expected to be slightly toxic to aquatic life. The LC50/96-hour values for fish are between 10 and 100 mg/l.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Not regulated.

15. Regulatory Information

--------\Chemical Inventory Status - Part 1\---------- Ingredient TSCA EC Japan Australia ---------- ---- --- ----- --------- Adipic Acid (124-04-9) Yes Yes Yes Yes

--------\Chemical Inventory Status - Part 2\---------- --Canada-- Ingredient Korea DSL NDSL Phil. ---------- ----- --- ---- ----- Adipic Acid (124-04-9) Yes Yes No Yes

--------\Federal, State & International Regulations - Part 1\---------- -SARA 302- ------SARA 313------ Ingredient RQ TPQ List Chemical Catg. ---------- --- ----- ---- ---------- Adipic Acid (124-04-9) No No No No

--------\Federal, State & International Regulations - Part 2\---------- -RCRA- -TSCA- Ingredient CERCLA 261.33 8(d) ---------- ------ ------ ------ Adipic Acid (124-04-9) 5000 No No

Chemical Weapons Convention: No TSCA 12(b): No CDTA: No SARA 311/312: Acute: Yes Chronic: No Fire: Yes Pressure: No Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: None allocated.

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: **1** Flammability: **1** Reactivity: **0**

Label Hazard Warning:

CAUTION! CAUSES MODERATE EYE IRRITATION. MAY CAUSE IRRITATION TO SKIN AND RESPIRATORY TRACT. MAY BE HARMFUL IF SWALLOWED OR INHALED. MAY FORM COMBUSTIBLE DUST CONCENTRATIONS IN AIR.

Label Precautions:

Avoid breathing dust. Avoid contact with eyes, skin and clothing.
Keep container closed. Use with adequate ventilation.
Wash thoroughly after handling.
Avoid dust cloud in presence of an ignition source.

Label First Aid:

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. Call a physician if irritation develops or persists. If inhaled, remove to fresh air. Get medical attention for any breathing difficulty. If large amounts were swallowed, call a physician immediately.

Product Use:

Laboratory Reagent.

Revision Information:

No Changes.

Disclaimer: