



Safety Data Sheet



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ADIPIC ACID
Reference Number: AST10068
Date: January 27, 2017
Chemical Name: 1,4-Butane Dicarboxylic Acid
Synonyms: Hexanedioic Acid

Company Information:

ICL PERFORMANCE PRODUCTS LP

622 Emerson Road - Suite 500
St. Louis, Missouri 63141

Emergency telephone: In USA call CHEMTREC: 1 800 424 9300

Outside the USA, including ships at sea, call CHEMTREC's international and maritime telephone number (collect calls accepted):
+1 (703) 527-3887

In Canada call CANUTEC: 1 613 996 6666

General Information: +1 800 244 6169 (Worldwide)

2. HAZARDS IDENTIFICATION

GHS



Danger

SKIN CORROSION/IRRITATION - Category 3

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

AQUATIC HAZARD (ACUTE) - Category 3

COMBUSTIBLE DUST May form Combustible dust concentrations in air.

H318 Causes serious eye damage.

H316 Causes mild skin irritation.

H335 May cause respiratory irritation.

H402 Harmful to aquatic life.

P280 Wear eye or face protection: Recommended: If operating conditions cause high dust concentrations to be produced, use dust goggles.

P273 Avoid release to the environment.

P264 Wash hands thoroughly after handling.

P332 + P313: If skin irritation occurs: Get medical attention.

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P305+P350+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.

P501 Dispose of contents and container in accordance with all local, regional, national and international regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS No.</u>	<u>EINECS</u>	<u>% by weight</u>
Adipic Acid	124-04-9	204-673-3	100

4. FIRST AID MEASURES

Likely Routes of Exposure: Eye and Skin contact, inhalation

IF IN EYES, get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

IF ON SKIN, flush contaminated skin with plenty of water. Continue to rinse for at least 10 minutes. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

IF INHALED, remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

IF SWALLOWED, wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.

5. FIRE FIGHTING MEASURES

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. Do not use water jet.

Unusual Fire and Explosion Hazards: Fine dust clouds may form explosive mixtures with 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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protection recommended in section 8.

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Environmental precautions: This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Methods for cleaning up: 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.

7. HANDLING AND 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 vapour and product residue. The reuse of this material's container for nonindustrial purposes is prohibited and any reuse must be in consideration of the data provided in the MSDS.

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 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 facepiece 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 use 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>ACGIH TLV</u>
adipic acid	None established	5 mg/m ³

Components referred to herein may be regulated by specific Canadian provincial legislation. Please refer to exposure limits legislated for the province in which the substance will be used.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance (physical state, color etc.): White crystalline powder
- Odor: Odorless
- Odor Threshold – None
- pH:
- Melting point/freezing point:
- Initial Boiling point and Boiling Range:

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- g. Flash Point:
- h. Evaporation rate: N/A
- i. Flammability (solid or Gas): Undetermined
- j. Upper/lower flammability or explosive limits: Undetermined
- k. Vapor Pressure:
- l. Vapor Density:
- m. Relative Density:
- n. Solubility:
- o. Partition Coefficient:
- p. Auto-ignition temperature:
- q. Decomposition Temperature:
- r. Viscosity: N/A

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 a guaranteed analysis of any specific lot or as specifications for the product.

10. STABILITY AND REACTIVITY

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

Materials to Avoid: Reactive or incompatible with cement/concrete/mortar, alkalis, amines, oxidizing materials.

Conditions to avoid: Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.

Hazardous Polymerization: Does not occur.

Hazardous decomposition products: None known.

11. TOXICOLOGICAL INFORMATION

Data from ICL Performance Products LP studies and from the available scientific literature indicate the following:

Oral - Practically Nontoxic, Rat LD₅₀ - 5,560 mg/kg

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

Inhalation – Rat, 4 hours, LC₅₀ – 7700 mg/m³ 4 hours Material is irritating to mucous membranes and upper respiratory tract. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Skin Irritation – Mild irritant ; Non sensitizer to skin

Eye Irritation - Causes severe eye irritation. Prolonged contact can cause severe irritation or even burns. Corrosive to eyes.

Carcinogenicity: No known significant effects or critical hazards.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

12. ECOLOGICAL INFORMATION

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Environmental Toxicity

Acute EC50 59 mg/l (growth rate) Fresh water: Algae – Pseudokirchnerella subcapitata 72 hours

Acute EC50 4747 mg/l Fresh water: Micro-organism 3 hours

Acute LC50 46 mg/l Fresh water Daphnia 48 hours

Acute LC50 97000 µg/l Fresh water Fish - Pimephales promelas -Juvenile (Fledgling, Hatchling, Weanling) 96 hours

Acute NOEC 41 mg/l (growth rate) Fresh water: Algae – Pseudokirchnerella subcapitata 72 hours

Chronic EC50 18 mg/l Fresh water Daphnia 21 days

Chronic NOEC 6.3 mg/l Fresh water Daphnia 21 days

Environmental fate

Biodegradation: Readily biodegradable.

13. DISPOSAL CONSIDERATIONS

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.

14. TRANSPORT INFORMATION

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

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.

Canada TDG - Not regulated

IMDG/UN - Not regulated

ICAO/IATA - Not regulated

15. REGULATORY INFORMATION

Chemical Inventory

TSCA Inventory: Listed

DSL Inventory: Listed

EU: Listed

Australia: Listed

Korea: Listed

Japan: Listed

Philippines: Listed

China: Listed

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

SARA Hazard Notification

Hazard Categories Under Title III Rules (40 CFR 370): Fire hazard, 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.

16. OTHER INFORMATION

	Health	Fire	Reactivity	Additional Information
Suggested NFPA Rating	2	2	0	
Suggested HMIS Rating	2	3	0	E

Reason for revision: Section 14

Supersedes MSDS dated: May 21, 2015

Product Use: Food additive, Fiber Intermediate

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