



**ICL Performance  
Products LP**

## *Material Safety Data Sheet*

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: ADIPIC ACID  
Reference Number: AST10068  
Date: April 20, 2006  
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  
In Canada call CANUTEC: 1 613 996 6666

General Information: +1 800 244 6169 (Worldwide)

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

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

### 3. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Appearance and Odor: White crystalline granules; odor not characterized.

#### WARNING STATEMENTS

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

#### POTENTIAL HEALTH EFFECTS

Likely Routes of Exposure: Skin contact and inhalation

EYE CONTACT: This material may cause pain, redness, and tearing based on human experience.

SKIN CONTACT: This material is practically nonirritating and nontoxic based on toxicity studies.

INHALATION: Excessive concentrations of dusts of this material have been noted to cause respiratory tract irritation including coughing, sneezing, and blood-tinged mucous based on human experience.

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INGESTION: This material is practically nontoxic if swallowed based on toxicity studies. Significant adverse health effects are not expected to develop if small amounts (less than a mouthful) are swallowed.

Refer to Section 11 for toxicological information.

### 4. FIRST AID MEASURES

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

IN ON SKIN, immediate first aid is not likely to be required. However, 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.

IF SWALLOWED, immediate first aid is not likely to be required. A physician or Poison Control Center can be contacted for advice.

### 5. FIRE FIGHTING MEASURES

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

Fire Point: 450 degrees F (232 degrees 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 CO<sub>2</sub>.

Unusual Fire and Explosion Hazards: This material as normally packaged and handled can contain sufficient fines to form an explosive mixture if dispersed in 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.

### 6. ACCIDENTAL RELEASE MEASURES

In case of spill, do not blow material. Use vacuum equipment designed specifically for handling combustible dusts.

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

### 7. HANDLING AND STORAGE

Avoid contact with eyes.

Avoid breathing dust.

Keep container closed.

Use only 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 labeled safeguards until container is cleaned, reconditioned, or destroyed. 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

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**EYE PROTECTION:** Where there is significant potential for eye contact, wear chemical goggles and 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. Wash hands and contaminated skin 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. 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 <sup>3</sup>

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: White crystalline powder  
Melting Point: 152 degrees C  
Boiling Point: 337.5 degrees C  
Solubility in Water: 1.90 g/100 ml @ 20 degrees C  
83.0 g/100 ml @ 90 degrees 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 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: None known

Hazardous Polymerization: Does not occur

### 11. TOXICOLOGICAL INFORMATION

Data from ICL Performance Products LP studies and from the 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 - Nonirritating (Rabbit, 4-hr. exposure, 0.0/8.0)

No adverse effects were reported in rats exposed to adipic acid by repeated inhalation. Rats given adipic acid in their diets for two years showed no increase in tumors. No birth defects were reported in mice, rats or hamsters given adipic acid orally during pregnancy. No adverse genetic changes were reported in standard tests using bacterial, animal and human cells, and animals.

**12. ECOLOGICAL INFORMATION**

The following data have been classified using the criteria adopted by the European Economic Community (EEC) for aquatic organism toxicity.

Warm water fish: 96-hr LC50 in Fathead minnow: 97 mg/L (Harmful)  
Cold water fish: 48-hour LC50 in Rainbow trout: > 100 mg/L; Practically nontoxic

No definitive invertebrate or algal toxicity data were available for this material. Biodegradation studies indicate that this material would meet the OECD guidelines for classification as "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 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

Canadian TDG

Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s. (adipic acid) \*  
Hazard Class 9.2  
Hazard Identification Number: UN3077  
Packing Group: III  
Transport Label: Class 9

Reportable Quantity/ Reportable Limit

US DOT RQ: 5000 lbs adipic acid  
Package size containing reportable amount: 5000 lbs

Canadian TDG RL: 230 kg adipic acid  
Package size containing reportable amount: 230 kg

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

**15. REGULATORY INFORMATION**

TSCA Inventory: Listed  
DSL Inventory: Listed

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

SARA Hazard Notification  
Hazard Categories Under Title III Rules (40 CFR 370): Immediate

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Section 302 Extremely Hazardous Substances:

Not Applicable

Section 313 Toxic Chemical(s):

Not Applicable

CERCLA Reportable Quantity: 5000 lb

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	1	0	
Suggested HMIS Rating	2	1	0	F

Reason for revision: Revised section 1.

Supersedes MSDS dated: November 1, 2005

Product Use: Food additive, Fiber Intermediate

Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, ICL Performance Products LP makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will ICL Performance Products LP be responsible for damages of any nature whatsoever resulting from the use of or reliance upon information. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS

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