



**LEONID CHEMICALS PVT. LTD.,  
BANGALORE**

An ISO-9001:2008 Certified Company

**Quality Assurance Department**

(CODE) DOCUMENT : WI

(CODE) SECTION : WI/SM

(DATE) : 01.04.2011



Issue : 02

Rev.: 00

Title: MATERIAL SAFETY DATA SHEET (MSDS): ADIPIC ACID

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## SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Adipic Acid

Catalog Numbers: A068

Synonyms: Hexanedioic acid

CAS-No. : 124-04-9

Company Information:

**LEONID CHEMICALS Pvt Ltd,**  
62/A2, 1<sup>st</sup> Stage,  
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## SECTION 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Eye irritation (Category 2)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Irritating to eyes.

### 2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Signal word **Warning**

Hazard statement(s)

H319 Causes serious eye irritation.

Precautionary statement(s)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard

Statements none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)

R-phrases)



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R36 Irritating to eyes.

S-phrase(s) none

2.3 Other hazards - none

### SECTION 3: Composition/information on ingredients

#### 3.1 Substances

Synonyms : Hexanedioic acid

Formula : C<sub>6</sub>H<sub>10</sub>O<sub>4</sub>

Molecular Weight : 146,14 g/mol

Component	Concentration
Adipic acid	
CAS-No.	124-04-9
EC-No.	204-673-3
Index-No.	607-144-00-9

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.



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- 4.3 Indication of any immediate medical attention and special treatment needed  
no data available

#### SECTION 5: Firefighting measures

- 5.1 **Extinguishing media**  
Suitable extinguishing media  
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- 5.2 **Special hazards arising from the substance or mixture**  
Carbon oxides
- 5.3 **Advice for firefighters**  
Wear self contained breathing apparatus for fire fighting if necessary.
- 5.4 **Further information**  
no data available

#### SECTION 6: Accidental release measures

- 6.1 **Personal precautions, protective equipment and emergency procedures**  
Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
- 6.2 **Environmental precautions**  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- 6.3 **Methods and materials for containment and cleaning up**  
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
- 6.4 **Reference to other sections**  
For disposal see section 13.

#### SECTION 7: Handling and storage

- 7.1 **Precautions for safe handling**  
Avoid formation of dust and aerosols.  
Provide appropriate exhaust ventilation at places where dust is formed.
- 7.2 **Conditions for safe storage, including any incompatibilities**



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

- 7.3 Specific end uses**  
no data available

## SECTION 8: Exposure controls/personal protection

- 8.1 Control parameters**  
Components with workplace control parameters

- 8.2 Exposure controls**  
Appropriate engineering controls  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.  
Personal protective equipment

### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

### Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Immersion protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 480 min

Material tested: Dermatrill

#### Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 30 min

Material tested: Dermatrill

test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist



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familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## SECTION 9: Physical and chemical properties

Physical State	: Solid
Appearance	: White
odor	: odorless
pH	: 3.2 (0.1 % Solution)
Vapor Pressure	: <1 mbar @ 20 °C
Vapor Density	: 5.04 (Air = 1.0)
Boiling Point/Range	: 265°C / 509°F@ 100 mmHg
Melting Point/Range	: 151 - 153°C / 303.8 - 307.4°F
Decomposition temperature	: 315 °C
Flash Point	: 196°C / 384.8°F
Autoignition Temperature	: 420°C / 788°F
Evaporation Rate	: negligible
Water Solubility	: 15 g/L
Molecular Formula	: C6 H10 O4
Molecular Weight	: 146.14

## SECTION 10: Stability and reactivity

- 10.1 Reactivity  
no data available
- 10.2 Chemical stability  
no data available
- 10.3 Possibility of hazardous reactions  
no data available
- 10.4 Conditions to avoid





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no data available

#### 10.5 Incompatible materials

Strong oxidizing agents

#### 10.6 Hazardous decomposition products

Other decomposition products - no data available

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

LD50 Oral - rat - 5.050 mg/kg

LD50 Dermal - rabbit - 7.940 mg/kg

Skin corrosion/irritation

Serious eye damage/eye irritation

Eyes - rabbit - Moderate eye irritation - 24 h

##### Respiratory or skin sensitization

no data available

##### Germ cell mutagenicity

no data available

##### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

##### Reproductive toxicity

no data available

##### Specific target organ toxicity - single exposure

no data available

##### Specific target organ toxicity - repeated exposure

no data available

##### Aspiration hazard

no data available

##### Potential health effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion May be harmful if swallowed. Causes burns.

Skin May be harmful if absorbed through skin. Causes skin burns.

Eyes Causes eye burns.

Signs and Symptoms of Exposure



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To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

#### **Additional Information**

RTECS: AU8400000

### **SECTION 12: Ecological information**

#### **12.1 Toxicity**

Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 97 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 85,7 mg/l - 48 h

Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - 31,3 mg/l - 72 h

#### **12.2 Persistence and degradability**

no data available

#### **12.3 Bioaccumulative potential**

no data available

#### **12.4 Mobility in soil**

no data available

#### **12.5 Results of PBT and vPvB assessment**

no data available

#### **12.6 Other adverse effects**

Harmful to aquatic life.

no data available

### **SECTION 13: Disposal considerations**

#### **13.1 Waste treatment methods**

##### **Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

##### **Contaminated packaging**

Dispose of as unused product.

### **SECTION 14: Transport information**

#### **14.1 UN number**

ADR/RID: - IMDG: - IATA: -



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**14.2 UN proper shipping name**

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

**14.3 Transport hazard class(es)**

ADR/RID: - IMDG: - IATA: -

**14.4 Packaging group**

ADR/RID: - IMDG: - IATA: -

**14.5 Environmental hazards**

ADR/RID: no IMDG Marine pollutant: no IATA: no

**14.6 Special precautions for user**

no data available

**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

no data available

**15.2 Chemical Safety Assessment**

no data available

**SECTION 16 - ADDITIONAL INFORMATION**

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Leonid Chemicals Pvt. Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Leonid Chemicals Pvt. Ltd. has been advised of the possibility of such damages.