SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 **Product identifiers**
   
   **Product name**: Adipic Acid
   
   **CAS-No.**: 124-04-9

1.2 **Relevant identified uses of the substance or mixture and uses advised against**
   
   **Identified uses**: Laboratory chemicals, Industrial & for professional use only.

1.3 **Details of the supplier of the safety data sheet**
   
   **Company**: Central Drug House (P) Ltd
   7/28 Vardaan House
   New Delhi-10002
   INDIA
   
   **Telephone**: +91 11 49404040
   **Email**: care@cdhfinechemical.com

1.4 **Emergency telephone number**
   
   **Emergency Phone #**: +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

SECTION 2: Hazards identification

2.1 **Classification of the substance or mixture**
   
   **Classification according to Regulation (EC) No 1272/2008**
   
   Serious eye damage (Category 1), H318

   For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 **Label elements**
   
   **Labelling according Regulation (EC) No 1272/2008**
   
   **Pictogram**
   
   **Signal word**: Danger
   
   **Hazard statement(s)**: Corrosive to metals
   H318
   
   **Precautionary statement(s)**
   P280
   IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
   P305 + P351 + P338
   Wear protective gloves/ eye protection/ face protection.

MATERIAL SAFETY DATA SHEET
SDS/MSDS
Supplemental Hazard: none

2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances
Synonyms: Hexanedioic acid

Formula: C₆H₁₀O₄
Molecular weight: 146.14 g/mol
CAS-No.: 124-04-9
EC-No.: 204-673-3
Index-No.: 607-144-00-9

Hazardous ingredients according to Regulation (EC) No 1272/2008

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adipic acid</td>
<td>1; H318</td>
<td>&lt;= 100%</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>124-04-9</td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>204-673-3</td>
<td></td>
</tr>
<tr>
<td>Index-No.</td>
<td>607-144-00-9</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

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
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
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
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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 firefighting if necessary.
SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
For personal protection see section 8.

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.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Storage class (TRGS 510): Non Combustible Solids

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 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.

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 (EN 143) respirator cartridges as a backup to engineering controls. If the full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance
   Form: crystalline
   Colour: white

b) Odour
   No data available

c) Odour Threshold
   No data available

d) pH
   2.7 at 23 g/l at 25 °C

e) Melting point/freezing point
   Melting point/range: 151 - 154 °C

f) Initial boiling point and boiling range
   265 °C at 133 hPa - lit.

g) Flash point
   196 °C - closed cup

h) Evaporation rate
   No data available

i) Flammability (solid, gas)
   May form combustible dust concentrations in air.

j) Upper/lower flammability or explosive limits
   No data available

k) Vapour pressure
   1 mmHg at 159.5 °C
   0.097 hPa at 18.5 °C

l) Vapour density
   No data available

m) Relative density
   No data available

n) Water solubility
   23 g/l at 25 °C - soluble

o) Partition coefficient: n-octanol/water
   log Pow: 0.093 at 25 °C

p) Auto-ignition temperature
   > 400 °C

q) Decomposition temperature
   No data available

r) Viscosity
   No data available

s) Explosive properties
   Not explosive

t) Oxidizing properties
   No data available

9.2 Other safety information

Bulk density
   0.7 g/l

Solubility in other solvents
   Methanol - soluble
   Ethanol - soluble
   Acetone - soluble
   Benzene - slightly soluble

Dissociation constant
   4.43 at 20 °C
SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
No data available

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions.
- Carbon oxides
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - male and female - 5,560 mg/kg(Adipic acid)
(OECD Test Guideline 401)
LC0 Inhalation - Rat - male and female - 4 h - > 7.7 mg/l(Adipic acid)
(OECD Test Guideline 403)
LD0 Dermal - Rabbit - male and female - 7,940 mg/kg(Adipic acid)

Skin corrosion/irritation
Skin - Rabbit(Adipic acid)
Result: Mild skin irritation - 24 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit(Adipic acid)
Result: Risk of serious damage to eyes. - 24 h
(OECD Test Guideline 405)

Respiratory or skin sensitisation
Maximisation Test - Guinea pig(Adipic acid)
Result: Does not cause skin sensitisation.

Germ cell mutagenicity
Hamster(Adipic acid)
fibroblast
Result: negative
(Adipic acid)
Rat - male
Result: negative

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(Adipic acid)

Specific target organ toxicity - single exposure
No data available(Adipic acid)
Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available (Adipic acid)

Additional Information
RTECS: AU8400000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated (Adipic acid)

SECTION 12: Ecological information

12.1 Toxicity
- Toxicity to fish: static test LC0 - Brachydanio rerio (zebrafish) - >= 1,000 mg/l - 96 h (Adipic acid)
- Toxicity to daphnia and other aquatic invertebrates: Immobilization LC50 - Daphnia magna (Water flea) - 46 mg/l - 48 h (Adipic acid) (OECD Test Guideline 202)
- Toxicity to algae: static test EC50 - Pseudokirchneriella subcapitata (algae) - 59 mg/l - 72 h (Adipic acid) (OECD Test Guideline 201)
- Toxicity to bacteria: Respiration inhibition EC50 - Sludge Treatment - 7,910 mg/l - 3 h (Adipic acid) (OECD Test Guideline 209)

12.2 Persistence and degradability
- Biodegradability: aerobic - Exposure time 30 d (Adipic acid) 
  Result: 83% - Readily biodegradable (OECD Test Guideline 301D)

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (Adipic acid)

12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects
Harmful to aquatic life.

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 chem scrubber.
- Contaminated packaging
  Dispose of as unused product.
SECTION 14: Transport information

14.1 UN number
ADR/RID: -  
IMDG: -  
IATA: -

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

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H318 Causes serious eye damage.

Further information
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. Central Drug House (P) Ltd and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.cdhfinechemical.com for additional terms and conditions of sale.