N,N’-Dibenzylethylenediamine diacetate

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<table>
<thead>
<tr>
<th>Product Description:</th>
<th>N,N’-Dibenzylethylenediamine diacetate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cat No.</td>
<td>L17974</td>
</tr>
<tr>
<td>CAS No.</td>
<td>122-75-8</td>
</tr>
<tr>
<td>Molecular Formula</td>
<td>C₆H₅CH₂NHCH₂CH₂NHCH₂C₆H₅.2CH₃CO₂</td>
</tr>
<tr>
<td>Supplier</td>
<td>Alfa Aesar</td>
</tr>
<tr>
<td></td>
<td>Avocado Research Chemicals, Ltd.</td>
</tr>
<tr>
<td></td>
<td>Shore Road</td>
</tr>
<tr>
<td></td>
<td>Port of Heysham Industrial Park</td>
</tr>
<tr>
<td></td>
<td>Heysham, Lancashire LA3 2XY</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
</tr>
<tr>
<td></td>
<td>Office Tel: +44 (0) 1524 850506</td>
</tr>
<tr>
<td></td>
<td>Office Fax: +44 (0) 1524 850608</td>
</tr>
</tbody>
</table>

Emergency Telephone Number
Call Carechem 24 at
+44 (0) 1865 407333 (English only);
+44 (0) 1235 239670 (Multi-language)

E-mail address
uktech@alfa.com
www.alfa.com
Product Safety Department

Recommended Use
Laboratory chemicals.

Uses advised against
No Information available

SECTION 2. HAZARD IDENTIFICATION

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Emergency Overview
Harmful if swallowed.

Classification of the substance or mixture

| Acute Oral Toxicity | Category 4 |

Label Elements

Signal Word
Warning
**Hazard Statements**
H302 - Harmful if swallowed

**Precautionary Statements**

**Prevention**
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product

**Response**
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth

**Storage**
P403 - Store in a well-ventilated place

**Disposal**
P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**
None identified.

**Health Hazards**
Harmful if swallowed.

**Environmental hazards**
Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

---

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Ethenediamine, N,N'-bis(phenylmethyl), diacetate</td>
<td>122-75-8</td>
<td>&lt;=100</td>
</tr>
</tbody>
</table>

---

## SECTION 4. FIRST AID MEASURES

**General Advice**
If symptoms persist, call a physician.

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Inhalation**
Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

**Ingestion**
Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

**Most important symptoms and effects**
None reasonably foreseeable.

**Self-Protection of the First Aider**
No special precautions required.

**Notes to Physician**
Treat symptomatically.

---

## SECTION 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Carbon dioxide (CO₂), Powder. Water spray. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to
the risk of explosion.

Extinguishing media which must not be used for safety reasons
No information available.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors.

Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions
Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions
Should not be released into the environment. See Section 12 for additional Ecological Information.

Methods for Containment and Clean Up
Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

Handling
Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

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

Specific Use(s)
Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Monitoring methods
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Exposure Controls

Engineering Measures
None under normal use conditions.

Personal protective equipment

Eye Protection
Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection
Protective gloves
Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

<table>
<thead>
<tr>
<th>Glove material</th>
<th>Breakthrough time</th>
<th>Glove thickness</th>
<th>EU standard</th>
<th>Glove comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural rubber</td>
<td>See manufacturers</td>
<td>-</td>
<td>EN 374</td>
<td>(minimum requirement)</td>
</tr>
<tr>
<td>Nitrile rubber</td>
<td>recommendaions</td>
<td>-</td>
<td>En 136</td>
<td></td>
</tr>
<tr>
<td>Neoprene</td>
<td></td>
<td>-</td>
<td>En 140</td>
<td></td>
</tr>
<tr>
<td>PVC</td>
<td></td>
<td>-</td>
<td>En 141</td>
<td></td>
</tr>
</tbody>
</table>

**Skin and body protection**
Long sleeved clothing

**Respiratory Protection**
No protective equipment is needed under normal use conditions.

**Large scale/emergency use**
Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced
**Recommended Filter type:** Particle filter

**Small scale/Laboratory use**
Maintain adequate ventilation
**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls**
No information available.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance**
  - White

- **Physical State**
  - Solid

- **Odor**
  - No information available

- **Odor Threshold**
  - No data available

- **pH**
  - No information available

- **Melting Point/Range**
  - 117 - 118 °C / 242.6 - 244.4 °F

- **Softening Point**
  - No data available

- **Boiling Point/Range**
  - No information available

- **Flash Point**
  - No information available

- **Evaporation Rate**
  - Not applicable

- **Flammability (solid,gas)**
  - No information available

- **Explosion Limits**
  - No data available

- **Vapor Pressure**
  - No data available

- **Vapor Density**
  - Not applicable

- **Specific Gravity / Density**
  - No data available

- **Bulk Density**
  - No data available

- **Water Solubility**
  - No information available

- **Solubility in other solvents**
  - No information available

- **Partition Coefficient (n-octanol/water)**
  - No data available

- **Autoignition Temperature**
  - No data available

- **Decomposition Temperature**
  - No data available

- **Viscosity**
  - Not applicable

- **Explosive Properties**
  - No information available

- **Oxidizing Properties**
  - No information available
N,N'-Dibenzylethylenediamine diacetate

Molecular Formula
C6 H5 CH2 NHCH2 CH2 NHCH2 C6 H5.2CH3 CO2
Molecular Weight
360.46

SECTION 10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Hazardous Reactions
None under normal processing.

Hazardous Polymerization
No information available.

Conditions to Avoid
None known.

Materials to avoid
Oxidizing agent.

Hazardous Decomposition Products
Carbon monoxide (CO). Carbon dioxide (CO2). Nitrogen oxides (NOx).

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

(a) acute toxicity;
No data available

(b) skin corrosion/irritation;
No data available

(c) serious eye damage/irritation;
No data available

(d) respiratory or skin sensitization;
Respiratory
Skin
No data available
No data available

(e) germ cell mutagenicity;
No data available

(f) carcinogenicity;
No data available
There are no known carcinogenic chemicals in this product

(g) reproductive toxicity;
No data available

(h) STOT-single exposure;
No data available

(i) STOT-repeated exposure;
No data available

Target Organs
No information available.

(j) aspiration hazard;
Not applicable
Solid

Symptoms / effects, both acute and delayed
No information available

SECTION 12. ECOLOGICAL INFORMATION
Ecotoxicity effects
Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

Persistence and Degradability
No information available

Bioaccumulative Potential
No information available

Mobility in soil
No information available

Endocrine Disruptor Information
This product does not contain any known or suspected endocrine disruptors

Persistent Organic Pollutant
This product does not contain any known or suspected substance

Ozone Depletion Potential
This product does not contain any known or suspected substance

SECTION 13. DISPOSAL CONSIDERATIONS

Waste from Residues/Unused Products
Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging
Dispose of this container to hazardous or special waste collection point.

Other Information
Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport
Not Regulated

IMDG/IMO
Not regulated

IATA
Not regulated

SECTION 15. REGULATORY INFORMATION

International Inventories
X = listed. China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>The Inventory of Hazardous Chemicals (2015 Edition)</th>
<th>List of dangerous goods GB 12268-2012</th>
<th>TCSI</th>
<th>IECSC</th>
<th>EINECS</th>
<th>TSCA</th>
<th>DSL</th>
<th>PICCS</th>
<th>ENCS</th>
<th>ISHL</th>
<th>AICS</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,2-Ethanediamine, N,N'-bis(phenylmethyl) diacetate</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>204-572-4</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>
SECTION 16. OTHER INFORMATION

Prepared By: Health, Safety and Environmental Department
Revision Date: 04-Feb-2021
Revision Summary: Not applicable.

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Legend
- CAS - Chemical Abstracts Service
- EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- IECSC - Chinese Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- WEL - Workplace Exposure Limit
- ACGIH - American Conference of Governmental Industrial Hygienists
- DNEL - Derived No Effect Level
- RPE - Respiratory Protective Equipment
- LC50 - Lethal Concentration 50%
- NOEC - No Observed Effect Concentration
- PBT - Persistent, Bioaccumulative, Toxic
- ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
- IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
- OECD - Organisation for Economic Co-operation and Development
- BCF - Bioconcentration factor
- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- ENCS - Japanese Existing and New Chemical Substances
- AICS - Australian Inventory of Chemical Substances
- NZIoC - New Zealand Inventory of Chemicals
- TWA - Time Weighted Average
- IARC - International Agency for Research on Cancer
- LD50 - Lethal Dose 50%
- EC50 - Effective Concentration 50%
- POW - Partition coefficient Octanol:Water
- vPvB - very Persistent, very Bioaccumulative
- AIC - Asian Inventory of Chemicals
- ADRR - Agreement on the International Carriage of Dangerous Goods by Rail
- TBT - The Agreement on Textiles and Clothing
- ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
- MARPOL - International Convention for the Prevention of Pollution from Ships
- ATE - Acute Toxicity Estimate
- VOC (volatile organic compound)

Key literature references and sources for data
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet