1. CHEMICAL PRODUCT AND COMPANY INFORMATION

**Product Name:** CLEARLINK 1000

**Product Use:** Chemical - Polymer Additive

UOP LLC  
25 E. Algonquin Road  
Des Plaines, IL 60017-5017  
USA  
Tel: +1-847-391-3189  
Fax: +1-847-391-2953

UOP M.S. S.r.l.  
Viale Milanofiori  
20090 Assago Mi, Italy  
Tel : +39-02-892241  
Fax : +39-02-57500145

**Emergency Assistance - 24 hour Emergency Telephone Numbers:**

USA (UOP LLC) : + 1-847-391-2123  
USA (CHEMTREC) : + 1-800-424-9300  
Canada (CANUTEC) : + 1-613-996-6666  
Outside USA (CHEMTREC) : + 1-703-527-3887

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>INGREDIENT &amp; CAS No</th>
<th>% WEIGHT</th>
<th>ACGIH TLV-TWA</th>
<th>OSHA PEL-TWA</th>
<th>UNITS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aliphatic diamines 154279-60-4</td>
<td>&lt; 100</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.A.</td>
</tr>
</tbody>
</table>

**Abbreviations:**

N.A. - Not Applicable  
N.E. - None Established  
SC - Soluble Compounds  
RD - Respirable Dust  
TD - Total Dust  
FuD - Fume and Dust  
Fu - Fume  
I - Inhalable  
R - Respirable  
IS - Insoluble
3. HAZARDS IDENTIFICATION

Emergency Overview
Causes skin/eye burns or severe irritation. Harmful if swallowed. Repeated or prolonged exposure may irritate the respiratory system. The product is combustible and toxic vapors may be given off in a fire.

Form: Liquid
Color: Colorless

Potential Health Effects:

Primary Routes of Exposure: Contact with skin, eyes and inhalation of product vapor. Product ingestion is unlikely to occur if proper safety/hygiene procedures are followed.

Skin Contact: Corrosive to the skin.
Eye Contact: Corrosive to the eye.
Ingestion: Harmful if swallowed.
Inhalation: Inhalation of product vapors or mist may cause irritation of the respiratory system.
Target Organ: The product is corrosive to any tissue; this includes the skin, eyes and mucous membranes.

Carcinogenicity Classification:

International Agency for Research on Cancer (IARC):
Neither the product nor the components are classified.

U.S. National Toxicology Program (NTP):
Neither the product nor the components are classified.

U.S. Occupational Safety and Health Administration (OSHA):
Neither the product nor the components are classified or regulated.

American Conference of Governmental Industrial Hygienists (ACGIH):
Neither the product nor the components are classified.
4. FIRST AID MEASURES

4.1 Eye contact: Flush immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.

4.2 Skin contact: REMOVE FROM SKIN IMMEDIATELY. Take off all contaminated clothing immediately. Remove adhering matter immediately. Use waterless hand cleaner. Then wash with lots of water and soap. Consult a physician.

4.3 After inhalation: Remove the victim into fresh air. If symptoms persist, call a physician.

4.4 After ingestion: Do not induce vomiting. Call a physician immediately.

4.5 Notes to physician: Symptomatic treatment is advised. In the unlikely event that large quantities of the product are ingested, gastric lavage should be considered. Aspiration into the lungs may cause chemical pneumonia. An activated charcoal slurry taken within 30 minutes of product ingestion may reduce the toxicity of the chemical. A 5:1 ratio of charcoal to material ingested is the recommended dosage. Activated charcoal should not be considered as an antidote; normal symptomatic treatment is recommended with or without the administration of activated charcoal.

5. FIRE FIGHTING MEASURES

5.1 Suitable extinguishing media: Water spray. Foam. Dry chemical. Carbon dioxide (CO₂).

5.2 Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.

5.3 Fire and explosion hazards: Cool containers / tanks with water spray. In the event of fire and/or explosion do not breathe fumes. Heating/burning can release hazardous gases: carbon oxides (CO, CO₂), nitrogen oxides (NOₓ).

5.4 Special protective equipment: Wear protective clothing. In case of respirable dust and/or fumes, use self-contained breathing apparatus.

5.5 Flash Point: 325°F (163°C)
6. ACCIDENTAL RELEASE MEASURES

6.1 Personal protection: See 8.2

6.2 Environmental precautions: Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3 Clean-up: Remove all sources of ignition. Stop leak at source. Keep people away from and upwind of spill/leak. Contain material using temporary measures such as sand bags, booms or adsorbent socks. Soak up with inert absorbent material (e.g. sand, silica gel, universal binder, sawdust). Never use spilled product. Spilled product should be disposed of in accordance with all applicable government regulations. (See 13.2). Small amounts: Soak up with inert absorbent material and dispose of in accordance with applicable regulations.

7. HANDLING AND STORAGE

7.1 Handling: Use only in well-ventilated areas. Wear personal protective equipment. In case of insufficient ventilation, wear suitable respiratory equipment. Keep away from open flames, hot surfaces and sources of ignition.

7.2 Storage: Keep containers tightly closed in a cool, well-ventilated place. Store in original container. Keep away from heat and sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Engineering measures: Ensure adequate ventilation, especially in confined areas.

8.2 Personal protection equipment: Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.

  Eye protection: Tightly fitting safety goggles. Face-shield.

  Hand protection: Solvent-resistant gloves.

  Skin and body protection: Solvent-resistant apron and boots. Protective suit. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

  Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. Air-purifying respirator for protection against organic vapors and particulate/mist: NIOSH approved (or equivalent) organic vapor adsorbent cartridge, and NIOSH classification N-95 filter or P-95 (or equivalent) if oil/liquid aerosols are present (42 CFR 84).
9.  PHYSICAL AND CHEMICAL PROPERTIES

These data do not represent technical or sales specifications.

9.1  Form: Liquid
9.2  Color: Colorless
9.3  Odor: Slight amine
9.4  pH: 11.5
9.5  Boiling point/range: 671°F (355°C)
9.6  Melting point/range: N.D.
9.7  Flash point: 325°F (163°C)
9.8  Autoignition temperature: N.D.
9.9  Bulk density: N.A.
9.10 Explosion limits: N.D.
9.11 Vapor pressure: <1 mmHg @ 68°F (20°C)
9.12 Relative density/Specific Gravity: 0.90
9.13 Vapor density: >1
9.14 Viscosity: 36 cSt @ 100°F (38°C)
9.15 Water solubility: N.D.
9.16 Solubility: N.D.

Abbreviations:
N.D. - Not Determined
N.A. - Not Applicable

10. STABILITY

10.1 Stability: Stable at normal conditions. Decomposes on heating.

10.2 Hazardous decomposition products: No decomposition if used as directed. Under conditions giving incomplete combustion, hazardous gases produced may consist of carbon oxides (CO, CO₂) and nitrogen oxides (NOₓ).

10.3 Conditions/Materials to avoid: Keep away from ignition sources. Incompatible with oxidizing and reducing agents. May corrode base metals.
11. TOXICOLOGICAL INFORMATION

11.1 Acute toxicity:

LD50/oral/rat = >460 mg/kg
LD50/dermal/rabbit = No data available.
LC50/inhalation/rat = No data available.

11.2 Chronic toxicity: Classification of Ingredients

EC Carcinogenic: Not listed.
EC Mutagenic: Not listed.
Carcinogenicity (ACGIH): Not listed.
IARC classification: Not listed.

11.3 Routes of exposure: Exposure may occur via inhalation, contact with skin and eyes.

11.4 Irritation:

Skin (rabbit): Corrosive
Eye (rabbit): Corrosive

11.5 Additional product information:
Avoid repeated and prolonged exposure.
The product did not exhibit genetic activity in Ames test and was not mutagenic.

11.6 Additional component information:
No data available.
12. ECOLOGICAL INFORMATION

12.1 Mobility:
No data available.

12.2 Biodegradation:
No data available.

12.3 Bioaccumulation:
Log Kow = 5.6

12.4 Aquatic toxicity:
LD50/96h/Rainbow trout: > 570 mg/l.
EC50/96h/Fresh green algae: 0.010 mg/l. (No-Observed-Effect Concentration: 0.00089 mg/l.)
EC50/48h/Daphnids: 27 mg/l. (No-Observed-Effect Concentration: 5 mg/l.)
Very toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.

12.5 Further Information:
No information available.

13. DISPOSAL CONSIDERATIONS


13.2 Disposal information: Dispose of in compliance with all applicable regulations. Can be incinerated, when in compliance with the local regulations. Empty remaining contents. Do not reuse empty containers.
This product (in its fresh unused state) is not listed by generic name or trademark name in the U.S. EPA's RCRA regulations and does not possess any of the four identifying characteristics of hazardous waste (ignitability, corrosivity, reactivity or toxicity).

14. TRANSPORT INFORMATION

14.1 Proper shipping name: Corrosive liquid, toxic, n.o.s. (contains Aliphatic diamines)

14.2 UN-No.:
UN2922
II

14.3 U.S. DOT
DOT Shipping name: Regulated.
Hazard classification: Corrosive liquid, toxic, n.o.s. (contains Aliphatic diamines)
Class 8 (6.1)

14.4 IMO:
EmS: Class 8 (6.1)
Marine pollutant: No

14.5 ICAO - IATA:
Instruction "passenger":
Instruction "cargo":
Class 8 (6.1)
808/Y808
812

14.6 Further Information:
No data available
15. REGULATORY INFORMATION

United States

Toxic Substances Control Act (TSCA):
All the ingredients of this mixture are registered on the TSCA Chemical Substance Inventory.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act) Reportable Quantity:
The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):
-- None --

SARA Title III (Superfund Amendments and Reauthorization Act of 1986):
Section 302 (Extremely Hazardous Substances):
The following component(s) of this product is/are subject to the emergency planning provisions of 40 CFR 355 when there are amounts equal to or greater than the Threshold Planning Quantity (TPQ):
-- None --

Section 313 (Toxic Chemicals):
The following component(s) have been specified as Toxic Chemicals under SARA Section 313 and may be subject to the Toxic Release Inventory (TRI) reporting requirements under 40 CFR 372:
-- None --

The following components are listed in U.S. State Regulations:

<table>
<thead>
<tr>
<th>State Reg Reference:</th>
<th>State Reg Reference:</th>
</tr>
</thead>
<tbody>
<tr>
<td>California - Proposition 65:</td>
<td>None.</td>
</tr>
<tr>
<td>Massachusetts Right-To-Know:</td>
<td>None.</td>
</tr>
<tr>
<td>New Jersey Right-To-Know:</td>
<td>None.</td>
</tr>
<tr>
<td>Pennsylvania Right-To-Know:</td>
<td>None.</td>
</tr>
</tbody>
</table>

Note: Other U.S. State Regulations may exist, check your local sources if available or contact the UOP Product Stewardship Manager (see Section 16).
Canada

Canadian Hazardous Products Act:
N.A.

Canadian Environmental Protection Act:
None of the ingredients of this mixture is notified to CEPA or on the DSL/NDSL.

European Union (EU)

European Inventory of Existing Commercial Chemical Substances:
The components of this preparation are not registered in Europe.

Council of European Communities Directive on Classification, Packaging and Labelling of Dangerous Substances/Preparation (67/548/EEC & 1999/45/EC, as amended):
The following label information applies:

Caution: Substance not yet fully tested.

Symbol(s):
C - Corrosive
N - Dangerous for the environment

Contains:
Aliphatic diamines

Risk Phrases:
R22 Harmful if swallowed.
R35 Causes severe burns.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 After contact with skin, wash with plenty of waterless handcleaner.
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S60 This material and/or its container must be disposed of as hazardous waste.
S61 Avoid release to the environment. Refer to special instructions/safety data sheet.
16. OTHER INFORMATION

Summary of changes: Sections 12, 15, EU only - 13, 14
Supersedes: January 2001
Prepared by: UOP Health, Safety & Environmental Department

HMIS™ - Hazardous Material Information System:
HMIS™ Ratings: 0-minimal hazard, 1- slight hazard, 2- moderate hazard, 3- serious hazard, 4- severe hazard.

HEALTH : 3
FLAMMABILITY : 1
REACTIVITY : 0

For additional information concerning this product, contact the following:

For health, safety and environmental information, please contact:

Product Stewardship Manager UOP LLC
25 E. Algonquin Road
Des Plaines, IL 60017-5017
USA
Tel: +1-847-391-3189
Fax: +1-847-391-2953

Product Safety Steward Europe UOP N.V.
Noorderlaan 147
B-2030 Antwerpen
Belgium
Tel: +32-3-5409-971
Fax: +32-3-5417-806

For technical or purchasing information, please contact:

Plastic Additives Group UOP LLC
25 E. Algonquin Road
Des Plaines, IL 60017-5017
USA
Tel: +1-847-391-3895
Fax: +1-847-391-2837

PRODUCT EMERGENCIES

If you have a product-related emergency, resulting in an incident such as a spill or release of product or human exposure and need assistance from UOP, please contact the following number:

24-Hour EMERGENCY NUMBER (UOP LLC) : + 1 - 847 - 391 - 2123

The data and recommendations presented in this data sheet concerning the use of our product and the materials contained therein are believed to be accurate and are based on information which is considered reliable as of the date hereof. However, the customer should determine the suitability of such materials for his purpose before adopting them on a commercial scale. Since the use of our products by others is beyond our control, no guarantee, express or implied, is made and no responsibility assumed for the use of this material or the results to be obtained therefrom. Information on this form is furnished for the purpose of compliance with Government Health and Safety Regulations and shall not be used for any other purposes. Moreover, the recommendations contained in this data sheet are not to be construed as a license to operate under, or a recommendation to infringe, any existing patents, nor should they be confused with state, municipal or insurance requirements, or with national safety codes.