SAFETY DATA SHEET

1. Identification

Material name: EUCON DX
Material: 704 1000

Recommended use and restriction on use
Recommended use: Additive
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person: EH&S Department
Telephone: 216-531-9222
Emergency telephone number: 1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification: Not classified

Label Elements

<table>
<thead>
<tr>
<th>Hazard Symbol:</th>
<th>No symbol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Signal Word:</td>
<td>No signal word.</td>
</tr>
<tr>
<td>Hazard Statement:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Precautionary Statements</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td>102-71-6</td>
<td>1 - &lt;5%</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>0.1 - &lt;1%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
4. First-aid measures

**Ingestion:** Rinse mouth thoroughly.

**Inhalation:** Move to fresh air.

**Skin Contact:** Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

**Eye contact:** Rinse immediately with plenty of water.

**Most important symptoms/effects, acute and delayed**

**Symptoms:** May cause skin and eye irritation.

**Indication of immediate medical attention and special treatment needed**

**Treatment:** Get medical attention if symptoms occur.

5. Fire-fighting measures

**General Fire Hazards:** No unusual fire or explosion hazards noted.

**Suitable (and unsuitable) extinguishing media**

**Suitable extinguishing media:** Use fire-extinguishing media appropriate for surrounding materials.

**Unsuitable extinguishing media:** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical:** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**

**Special fire fighting procedures:** No data available.

**Special protective equipment for fire-fighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures:** No data available.

**Methods and material for containment and cleaning up:** Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.

7. Handling and storage

Precautions for safe handling: Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities: Store away from incompatible materials. Store in original tightly closed container.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td>ST ESL</td>
<td>50 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)</td>
</tr>
<tr>
<td></td>
<td>AN ESL</td>
<td>5 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)</td>
</tr>
<tr>
<td></td>
<td>TWA PEL</td>
<td>5 mg/m³</td>
<td>US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>Ceiling</td>
<td>2 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (2011)</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>2 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
</tbody>
</table>

None of the components have assigned exposure limits.
<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Canada. Alberta OELs (Occupational Health &amp; Safety Code, Schedule 1, Table 2) (07 2009)</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>TWA</td>
<td>0.5 ppm 3.1 mg/m3</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Triethanolamine</td>
<td>TWA</td>
<td>5 mg/m3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>CEILING</td>
<td>2 mg/m3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>CEV</td>
<td>2 mg/m3</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>CEILING</td>
<td>2 mg/m3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
<tr>
<td>Diethanolamine</td>
<td>TWA</td>
<td>2 mg/m3</td>
<td>Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)</td>
</tr>
<tr>
<td>Diethanolamine - Inhalable fraction and vapor.</td>
<td>TWA</td>
<td>1 mg/m3</td>
<td>Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)</td>
</tr>
<tr>
<td>Diethanolamine</td>
<td>TWA</td>
<td>3 ppm 13 mg/m3</td>
<td>Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)</td>
</tr>
</tbody>
</table>

**Appropriate Engineering Controls**

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

**Individual protection measures, such as personal protective equipment**

**General information:**

Use personal protective equipment as required.

**Eye/face protection:**

Wear goggles/face shield.

**Skin Protection**

**Hand Protection:**

Use suitable protective gloves if risk of skin contact.

**Other:**

No data available.

**Respiratory Protection:**

In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

**Hygiene measures:**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

**9. Physical and chemical properties**
Appearance
   Physical state: liquid
   Form: liquid
   Color: Pale yellow
Odor: Mild
Odor threshold: No data available.
pH: 8.5
Melting point/freezing point: No data available.
Initial boiling point and boiling range: No data available.
Flash Point: No data available.
Evaporation rate: Slower than Ether
Flammability (solid, gas): No
Upper/lower limit on flammability or explosive limits
   Flammability limit - upper (%): No data available.
   Flammability limit - lower (%): No data available.
   Explosive limit - upper (%): No data available.
   Explosive limit - lower (%): No data available.
Vapor pressure: No data available.
Vapor density: Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density: 1.14
Solubility(ies)
   Solubility in water: Soluble
   Solubility (other): No data available.
Partition coefficient (n-octanol/water): No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: No data available.

10. Stability and reactivity
Reactivity: No data available.
Chemical Stability: Material is stable under normal conditions.
Possibility of hazardous reactions: No data available.
Conditions to avoid: Avoid heat or contamination.
Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.
# 11. Toxicological information

## Information on likely routes of exposure

**Inhalation:** In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

**Skin Contact:** Moderately irritating to skin with prolonged exposure.

**Eye contact:** Eye contact is possible and should be avoided.

**Ingestion:** May be ingested by accident. Ingestion may cause irritation and malaise.

## Symptoms related to the physical, chemical and toxicological characteristics

<table>
<thead>
<tr>
<th>Route</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>No data available.</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>No data available.</td>
</tr>
<tr>
<td>Eye contact</td>
<td>No data available.</td>
</tr>
<tr>
<td>Ingestion</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

## Information on toxicological effects

### Acute toxicity (list all possible routes of exposure)

**Oral Product:** Not classified for acute toxicity based on available data.

**Specified substance(s):**
- **Triethanolamine**
  - **LD 50 (Rat):** 6,400 mg/kg
- **Sodium hydroxide**
  - **LD 50 (Rabbit):** 325 mg/kg

**Dermal Product:** Not classified for acute toxicity based on available data.

**Specified substance(s):**
- **Triethanolamine**
  - **LD 50 (Rabbit):** > 2,000 mg/kg

**Inhalation Product:** Not classified for acute toxicity based on available data.

**Repeated dose toxicity Product:** No data available.

**Skin Corrosion/Irritation**
Product: No data available.

Specified substance(s):
- Triethanolamine: in vivo (Rabbit): Not irritant Experimental result, Key study
- Sodium hydroxide: in vivo (Rabbit): Irritating Experimental result, Weight of Evidence study

Serious Eye Damage/Eye Irritation
Product: No data available.
Specified substance(s):
- Sodium hydroxide: Rabbit, 1 d: 10% Sodium Hydroxide- Category 1; 0.5% Sodium Hydroxide- Slightly irritating to eyes

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Ecotoxicity:

**Acute hazards to the aquatic environment:**

**Fish**
- **Product:** No data available.
- **Specified substance(s):**
  - Triethanolamine: LC 50 (Fathead minnow (Pimephales promelas), 96 h): 10,610 - 13,010 mg/l Mortality
  - Sodium hydroxide: LC 50 (Pimephales promelas, 96 h): 11,800 mg/l Experimental result, Key study

**Aquatic Invertebrates**
- **Product:** No data available.
- **Specified substance(s):**
  - Triethanolamine: EC 50 (Ceriodaphnia dubia, 48 h): 609.88 mg/l Experimental result, Key study
  - Sodium hydroxide: EC 50 (Water flea (Ceriodaphnia dubia), 48 h): 34.59 - 47.13 mg/l Intoxication

**Chronic hazards to the aquatic environment:**

**Fish**
- **Product:** No data available.

**Aquatic Invertebrates**
- **Product:** No data available.
- **Specified substance(s):**
  - Triethanolamine: NOEC (Daphnia magna, 21 d): 125 mg/l Experimental result, Key study

**Toxicity to Aquatic Plants**
- **Product:** No data available.

**Persistence and Degradability**
- **Biodegradation**
  - **Product:** No data available.
13. Disposal considerations

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG: Not Regulated

CFR / DOT: Not Regulated
IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

CERCLA Hazardous Substance List (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1000 lbs.</td>
</tr>
<tr>
<td>Diethanolamine</td>
<td>100 lbs.</td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Not classified
Not classified

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>1000 lbs.</td>
</tr>
<tr>
<td>[1,1'-Biphenyl]-2-ol, sodium salt (1:1)</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Diethanolamine</td>
<td></td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethanolamine</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>10000 lbs</td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

US State Regulations
US. California Proposition 65
This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth
defects or other reproductive harm.

[1,1’-Biphenyl]-2-ol, sodium salt (1:1) Carcinogenic. 09 2011
Diethanolamine Carcinogenic. 07 2012

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Triethanolamine

US. Massachusetts RTK - Substance List

Chemical Identity
Triethanolamine
[1,1’-Biphenyl]-2-ol, sodium salt (1:1)

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Triethanolamine

US. Rhode Island RTK

Chemical Identity
Triethanolamine

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

VOC:
Regulatory VOC (less water and exempt solvent) : 0 g/l
VOC Method 310 : 0.00 %
Inventory Status:
Australia AICS: All components in this product are listed on or exempt from the Inventory.

Canada DSL Inventory List: All components in this product are listed on or exempt from the Inventory.

EINECS, ELINCS or NLP: All components in this product are listed on or exempt from the Inventory.

Japan (ENCS) List: All components in this product are listed on or exempt from the Inventory.

China Inv. Existing Chemical Substances: All components in this product are listed on or exempt from the Inventory.

Korea Existing Chemicals Inv. (KECI): All components in this product are listed on or exempt from the Inventory.

Canada NDSL Inventory: One or more components in this product are not listed on or exempt from the Inventory.

Philippines PICCS: All components in this product are listed on or exempt from the Inventory.

US TSCA Inventory: All components in this product are listed on or exempt from the Inventory.

New Zealand Inventory of Chemicals: All components in this product are listed on or exempt from the Inventory.

Japan ISHL Listing: One or more components in this product are not listed on or exempt from the Inventory.

Japan Pharmacopoeia Listing: One or more components in this product are not listed on or exempt from the Inventory.

Mexico INSQ: One or more components in this product are not listed on or exempt from the Inventory.

Ontario Inventory: One or more components in this product are not listed on or exempt from the Inventory.

Taiwan Chemical Substance Inventory: One or more components in this product are not listed on or exempt from the Inventory.
16. Other information, including date of preparation or last revision

| Revision Date: | 04/11/2018 |
| Version #:     | 4.0        |
| Further Information: | No data available. |
| Disclaimer:    | For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition. |