SECTION 1. IDENTIFICATION

Product identifier

: AZ 340 Developer

Product number

: 697329

Recommended use of the chemical and restrictions on use

Recommended use

: Materials for use in technical applications

Details of the supplier of the safety data sheet

Company


Emergency telephone

: 1-800-424-9300 CHEMTREC (USA)
1-703-741-5970 CHEMTREC (International)
24 Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Corrosive to Metals

: Category 1

Serious eye damage

: Category 1

Reproductive toxicity

: Category 1B

GHS label elements

Hazard pictograms

:

Signal Word

: Danger

Hazard Statements

:
AZ 340 Developer

Precautionary Statements:

Prevention:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P234 Keep only in original container.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P390 Absorb spillage to prevent material damage.

Storage:
P405 Store locked up.
P406 Store in corrosive resistant container with a resistant inner liner.

Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Substance / Mixture       | Mixture
|---------------------------|----------
| Hazardous ingredients     |          
| Chemical name             | Concentration (% w/w) | CAS-No. |
| di-Sodium tetraborate     | >= 1 - < 5          | 1330-43-4 |
| Sodium hydroxide          | >= 1 - < 5          | 1310-73-2 |

SECTION 4. FIRST AID MEASURES

If inhaled : Fresh air.
In case of skin contact : Take off immediately all contaminated clothing. Rinse skin...
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SDS Number: 70MDGM697329

In case of eye contact: Rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

If swallowed: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed: Irritation and corrosion. Risk of serious damage to eyes.

Notes to physician: No information available.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media: For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards during fire fighting: Not combustible.

Further information: Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

Special protective equipment for fire-fighters: In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Advice for non-emergency personnel:
Do not breathe vapors, aerosols.
Avoid substance contact.
Ensure adequate ventilation.
Evacuate the danger area, observe emergency procedures, consult an expert.
Advice for emergency responders:
Protective equipment see section 8.
Indications about waste treatment see section 13.

Environmental precautions: Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up: Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up with liquid-absorbent and neutralizing material (e.g. Chemizorb® OH⁻, Art. No. 101596). Dispose of properly.
Clean up affected area.
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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling
Advice on safe handling: Observe label precautions.

Conditions for safe storage, including any incompatibilities
Conditions for safe storage: No metal containers.
Storage conditions: Tightly closed.
Risks from decomposition products: see section 10

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>di-Sodium tetraborate</td>
<td>1330-43-4</td>
<td>TWA</td>
<td>1 mg/m3</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>2 mg/m3 (Borate)</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL (Inhalable particulate matter)</td>
<td>6 mg/m3 (Borate)</td>
<td>ACGIH</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
<td>C</td>
<td>2 mg/m3</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>2 mg/m3</td>
<td>NIOSH REL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>2 mg/m3</td>
<td>OSHA Z-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>2 mg/m3</td>
<td>OSHA P0</td>
</tr>
</tbody>
</table>

Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. See section 7.

Personal protective equipment
Respiratory protection: required when vapors/aerosols are generated.
Protective measures: Protective clothing
Eye protection: Tightly fitting safety goggles
Hygiene measures: Change contaminated clothing. Wash hands after working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: liquid
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Color</td>
<td>colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>odorless</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available.</td>
</tr>
<tr>
<td>pH</td>
<td>ca. 13</td>
</tr>
<tr>
<td></td>
<td>at 68 °F (20 °C)</td>
</tr>
<tr>
<td>Melting point</td>
<td>No information available.</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>approximately 212 °F (100 °C)</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Note: No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available.</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No information available.</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No information available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>17.5 Torr (solvent)</td>
</tr>
<tr>
<td></td>
<td>at 68 °F (20 °C)</td>
</tr>
<tr>
<td>Relative vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>approximately 1 g/cm³</td>
</tr>
<tr>
<td></td>
<td>at 68 °F (20 °C)</td>
</tr>
<tr>
<td>Relative density</td>
<td>No information available.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>No information available.</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No information available.</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information available.</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>approximately 1 mPas</td>
</tr>
<tr>
<td></td>
<td>at 68 °F (20 °C)</td>
</tr>
</tbody>
</table>
SECTION 10. STABILITY AND REACTIVITY

Reactivity: See below
Corrosive to Metals
Chemical stability: The product is chemically stable under standard ambient conditions (room temperature).
Possibility of hazardous reactions: Violent reactions possible with: The generally known reaction partners of water.
Conditions to avoid: no information available
Incompatible materials: Metals
Strong acids and oxidizing agents
Aluminum
Zinc
Hazardous decomposition products: in the event of fire: See section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Product
Carcinogenicity
IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA
No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.
NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Likely route of exposure
Inhalation, Eye contact, Skin contact

Acute inhalation toxicity
Symptoms: Possible symptoms:
Skin irritation
Rabbit
Result: No skin irritation
OECD Test Guideline 404
The toxicological data has been taken from products of similar composition.

Eye irritation
Rabbit
OECD Test Guideline 405
The toxicological data has been taken from products of similar composition.
Risk of serious damage to eyes.

Mixture causes serious eye damage.
Teratogenicity / Reproductive toxicity:
May damage fertility. May damage the unborn child.

Experience with human exposure
Other Relevant Toxicity Information:
Handle in accordance with good industrial hygiene and safety practice., The following toxicological data shown are those obtained from tests on products of similar composition. Other dangerous properties can not be excluded., Handle in accordance with good industrial hygiene and safety practice.

Components

di-Sodium tetraborate (1330-43-4):

Acute oral toxicity
LD50 Rat: > 2,500 mg/kg
OECD Test Guideline 401

Acute inhalation toxicity
LC50 Rat: > 2.04 mg/l; 4 h; dust/mist disodium tetraborate pentahydrate
OECD Test Guideline 403

Acute dermal toxicity
LD50 Rabbit: > 2,000 mg/kg (ECHA) disodium tetraborate pentahydrate

Skin irritation
Rabbit
Result: No irritation
(ECHA) disodium tetraborate pentahydrate

Eye irritation
Result: irritating

Result: Eye irritation
Germ cell mutagenicity
Genotoxicity in vitro
Ames test
Result: negative
(IUCLID)

Reproductive toxicity
No substantiated information from toxicological studies available.
CMR effects

Teratogenicity:
Clear evidence of adverse effects on development, based on animal experiments. Reproductive toxicity:
Clear evidence of adverse effects on sexual function and fertility, based on animal experiments.

Sodium hydroxide (1310-73-2):

Skin irritation
Rabbit
Result: Causes severe burns.
(External MSDS)

Eye irritation
Rabbit
Result: Irreversible effects on the eye
(ECHA)

Sensitization
Patch test: Human
Result: negative
(ECHA)

Germ cell mutagenicity
Genotoxicity in vitro
Mutagenicity (mammal cell test): micronucleus.
Result: negative
(Lit.)

Ames test
Escherichia coli
Result: negative
(IUCLID)

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Product
Persistence and degradability

Biodegradability
20 - 60 %
OECD Test Guideline 301D
Bioaccumulative potential
No information available.

**Mobility in soil**
No information available.

*Additional ecological information*
No ecological testing was carried out on the preparation.
Discharge into the environment must be avoided.

**Components**

*di-Sodium tetraborate (1330-43-4):*

- **Toxicity to daphnia and other aquatic invertebrates**
  EC5 E.sulcatum: 1.3 mg/l; 72 h (IUCLID)

- **Toxicity to algae**
  IC50 Desmodesmus subspicatus (green algae): 158 mg/l; 96 h (IUCLID)

- **Toxicity to bacteria**
  EC0 Pseudomonas putida: 15.8 mg/l; 16 h (IUCLID)

**Biodegradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

*Partition coefficient: n-octanol/water*

- log Pow: -1.53 (22 °C)

Bioaccumulation is not expected.

PBT/vPvB: Not applicable for inorganic substances

*Sodium hydroxide (1310-73-2):*

- **Toxicity to fish**
  LC50 Gambusia affinis (Mosquito fish): 125 mg/l; 96 h (External MSDS)

- **Toxicity to daphnia and other aquatic invertebrates**
  EC50 Ceriodaphnia (water flea): 40.4 mg/l; 48 h (ECHA)

- **Toxicity to bacteria**
  EC50 Photobacterium phosphoreum: 22 mg/l; 15 min (External MSDS)

**Biodegradability**

The methods for determining the biological degradability are not applicable to inorganic substances.
SECTION 13. DISPOSAL CONSIDERATIONS

Product Waste: Waste material must be disposed of in accordance with national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

RCRA number: RCRA number: D002 Yes -- If it becomes a waste as sold.

SECTION 14. TRANSPORT INFORMATION

DOT / 49CFR
UN/ID/NA number: 1824
Proper shipping name: Sodium hydroxide solution
Class: 8
Packing group: III
Labels: CORROSIVE
ERG Code: 154
Marine pollutant: no
Remarks: LTD QTY =< 5 L or 5 KG net capacity, as per 49 CFR 173.154

International Regulations

IATA-DGR
UN/ID No.: UN 1824
Proper shipping name: Sodium hydroxide solution
Class: 8
Packing group: III
Labels: Corrosive
Packing instruction (cargo aircraft): 856
Packing instruction (passenger aircraft): 852

IMDG-Code
UN number: UN 1824
Proper shipping name: SODIUM HYDROXIDE SOLUTION
Class: 8
Packing group: III
Labels: 8
EmS Code: F-A, S-B
Marine pollutant: no
SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity
Sodium hydroxide 1310-73-2 1000lbs
*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act
The following Hazardous Substances are listed under the U.S. Clean Water Act, Section 311, Table 116.4A:
Sodium hydroxide 1310-73-2

The following Hazardous Chemicals are listed under the U.S. Clean Water Act, Section 311, Table 117.3:
Sodium hydroxide 1310-73-2

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know
di-Sodium tetraborate 1330-43-4
Sodium hydroxide 1310-73-2
Pennsylvania Right To Know

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>7732-18-5</td>
</tr>
<tr>
<td>di-Sodium tetraborate</td>
<td>1330-43-4</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1310-73-2</td>
</tr>
</tbody>
</table>

The ingredients of this product are reported in the following inventories:

- **TSCA**: All substances listed on the TSCA Active Inventory.
- **DSL**: This product or its components are listed on or compliant with the DSL.

**SECTION 16. OTHER INFORMATION**

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.