

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329**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

: EMD Performance Materials Corp., an Affiliate of Merck KGaA,  
Darmstadt, Germany, 1200 Intrepid Avenue, Suite 300,  
Philadelphia, PA 19112, 1-888-367-3275, www.emd-pm.com

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

: H290 May be corrosive to metals.  
H318 Causes serious eye damage.  
H360 May damage fertility or the unborn child.

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329

## 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 with water/ shower.

In case of eye contact

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

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329

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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.

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**SECTION 5. FIRE-FIGHTING MEASURES**

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Suitable extinguishing media	:	Product itself is non-combustible; Fire extinguishing method of surrounding areas must be discussed.
Unsuitable extinguishing media	:	For this substance/mixture no limitations of extinguishing agents are given.
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.

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**SECTION 6. ACCIDENTAL RELEASE MEASURES**

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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 <sup>-</sup> , 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.

## AZ 340 Developer

Version  
1.1

Revision Date:  
02.10.2017

SDS Number:  
70MDGM697329

Storage conditions : Tightly closed.  
Risks from decomposition products: see section 10

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
di-Sodium tetraborate	1330-43-4	TWA	1 mg/m3	NIOSH REL
		TWA	10 mg/m3	OSHA P0
		TWA (Inhalable fraction)	2 mg/m3 (Borate)	ACGIH
		STEL (Inhalable fraction)	6 mg/m3 (Borate)	ACGIH
Sodium hydroxide	1310-73-2	C	2 mg/m3	ACGIH
		C	2 mg/m3	NIOSH REL
		TWA	2 mg/m3	OSHA Z-1
		C	2 mg/m3	OSHA P0

**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  
Form : liquid  
Color : colorless  
Odor : odorless  
Odor Threshold : No information available.

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329

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pH	approximately 13 at 68 °F (20 °C) strongly alkaline
Melting point	No information available.
Boiling point/boiling range	approximately 212 °F (100 °C)
Flash point	Water-based material containing no combustible components.
Evaporation rate	Note: No data available
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	17.5 Torr at 68 °F (20 °C) Corresponds to vapour pressure of water.
Relative vapor density	No data available
Density	approximately 1 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	No information available.
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	approximately 1 mPas at 68 °F (20 °C)
Explosive properties	No information available.
Oxidizing properties	No information available.
Corrosion	Corrosive to metals

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329

---

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: See below
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
Hazardous decomposition products	: in the event of fire: See section 5.

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**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 ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

## 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 oral toxicity*

Acute toxicity estimate: > 5,000 mg/kg

Calculation method

*Acute inhalation toxicity*

Acute toxicity estimate: 35.46 mg/l; 4 h ; dust/mist

Calculation method

Symptoms: Possible symptoms:

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329*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 or 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.

**Ingredients***di-Sodium tetraborate (1330-43-4):**Acute oral toxicity*

LD50 Rat: &gt; 2,500 mg/kg

OECD Test Guideline 401

*Acute inhalation toxicity*

LC50 Rat: &gt; 2.04 mg/l; 4 h ; dust/mist The value is given in analogy to the following substances: disodium tetraborate pentahydrate

OECD Test Guideline 403

*Acute dermal toxicity*

LD50 Rabbit: &gt; 2,000 mg/kg (ECHA) The value is given in analogy to the following substances: disodium tetraborate pentahydrate

*Skin irritation*

Rabbit

Result: No irritation

(ECHA) The value is given in analogy to the following substances: disodium tetraborate pentahydrate

*Eye irritation*

Result: irritating

*Germ cell mutagenicity*

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329

*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.

*Teratogenicity*  
No substantiated information from toxicological studies available.

**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)

Ames test  
Result: negative  
(IUCLID)

*Teratogenicity*  
Did not show teratogenic effects in animal experiments. (Lit.)

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity  
Product**



## AZ 340 Developer

Version  
1.1

Revision Date:  
02.10.2017

SDS Number:  
70MDGM697329

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### 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.

### Ingredients

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

##### *Toxicity to daphnia and other aquatic invertebrates*

EC50 *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*

Not applicable

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 *Daphnia magna* (Water flea): 76 mg/l; 24 h (50% solution) (External MSDS)

EC50 *Ceriodaphnia* (water flea): 40.4 mg/l; 48 h (ECHA)

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329

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

*Toxicity to fish (Chronic toxicity)*  
NOEC Poecilia reticulata (guppy): 56 mg/l; 96 h

*Biodegradability*

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

*Partition coefficient: n-octanol/water*  
Not applicable

PBT/vPvB: Not applicable for 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**

Not regulated as a dangerous good

**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

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329

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Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	no
Remarks	:	Alkalis

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**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 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

**Clean Water Act**

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

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

Sodium hydroxide	1310-73-2
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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

**AZ 340 Developer**Version  
1.1Revision Date:  
02.10.2017SDS Number:  
70MDGM697329**Pennsylvania Right To Know**di-Sodium tetraborate  
Sodium hydroxide1330-43-4  
1310-73-2**New Jersey Right To Know**di-Sodium tetraborate  
Sodium hydroxide1330-43-4  
1310-73-2**California Prop. 65**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

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

DSL : All components of this product are on the Canadian DSL  
TSCA : On TSCA Inventory

**SECTION 16. OTHER INFORMATION**

The information provided in this Material 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.