



SAFETY DATA SHEET
AZ 340 Developer

Substance No.: SXR054861
Version 3.0

Revision Date 12/26/2014
Print Date 12/26/2014

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : AZ 340 Developer

Product Use Description : Intermediate for electronic industry

Company : EMD Performance Materials Corp.
An affiliate of Merck KGaA, Darmstadt Germany
One International Plaza, Suite 300
Philadelphia, PA 19113

Telephone : 1-888-367-3275

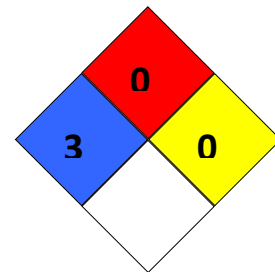
Emergency telephone number : 1-800-424-9300 (CHEMTREC)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

HMIS Classification : Health hazard: 3
Flammability: 0
Reactivity: 0
PPE:X

NFPA Classification : Health hazard: 3
Fire Hazard: 0
Reactivity Hazard: 0
Special Hazards: NONE



GHS Classification

Hazard category, Hazard class : Corrosive to metals, Category 1

Hazard category, Hazard class : Serious eye damage/eye irritation, Category 1




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GHS-Labeling

- Symbol(s) : 
- Signal word : Danger
- Hazard statements : May be corrosive to metals.
Causes serious eye damage.
- Precautionary statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash skin thoroughly after handling.
Wear protective gloves/ eye protection/ face protection.
Response:
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Storage:
Store in a well-ventilated place. Keep container tightly closed.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

Component	CAS-No.	Weight percent
Disodium tetraborate	1330-43-4	< 5
Sodium hydroxide	1310-73-2	< 2



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Non-hazardous ingredients

Component	CAS-No.	Weight percent
Water	7732-18-5	90 - 95

SECTION 4. FIRST AID MEASURES

First aid procedures

- Inhalation : If inhaled, remove to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
- Skin contact : Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.
- Eye contact : Remove contact lenses. Flush eyes with water at least 15 minutes. Get medical attention if eye irritation develops or persists.
- Ingestion : Call in a physician immediately and show him the Safety Data Sheet. Let plenty of water be drunk in small gulps.
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SECTION 5. FIREFIGHTING MEASURES

Flammable properties

- Flash point : Water-based material containing no combustible components.

Fire fighting

- Suitable extinguishing media : Product itself is non-combustible; Fire extinguishing method of surrounding areas must be discussed.
- Further information : The product itself does not burn.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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Protective equipment and precautions for firefighters

Special protective equipment for firefighters : Well closed full protective clothing (coat and pants) including helmet.
Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Environmental precautions : Do not allow contact with soil, surface or ground water.
Prevent spreading by use of suitable barriers.
Local authorities should be advised if significant spillages cannot be contained.

Methods for containment /
Methods for cleaning up : Wearing appropriate personal protective equipment, contain spill, ventilate area of spill or leak. Collect onto inert absorbent. Place in suitable container.

SECTION 7. HANDLING AND STORAGE

Handling

Handling : Use only in area provided with appropriate exhaust ventilation.
Wear personal protective equipment.
Avoid inhalation of vapour or mist.

Storage

Further information on storage conditions : Keep containers tightly closed in a dry, cool and well-ventilated place.
Protect from frost, heat and sunlight.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines



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Components with workplace control parameters

Components	CAS-No.	Control parameters	Basis
Disodium tetraborate	1330-43-4	TWA: 10 mg/m3	OSHA P0
		TWA: 1 mg/m3	NIOSH REL
		TWA: 2 mg/m3	ACGIH
		STEL: 6 mg/m3	
Sodium hydroxide	1310-73-2	C: 2 mg/m3	
		TWA: 2 mg/m3	OSHA Z-1
		C: 2 mg/m3	OSHA P0
		C: 2 mg/m3	NIOSH REL

Engineering measures

Engineering measures : Handle only in a place equipped with local exhaust (or other appropriate exhaust).

Personal protective equipment

Eye protection : Chemical splash goggles or safety glasses with full face shield to protect against splash.

Hand protection : Rubber gloves

Skin and body protection : Clothing suitable to prevent skin contact.

Respiratory protection : Breathing apparatus needed only when aerosol or mist is formed.
In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
Respirator with a particle filter (EN 143)
Use NIOSH approved respiratory protection.

Hygiene measures : Observe the usual precautions when handling chemicals.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : Liquid



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Color : colourless

Odor : odourless

Safety data

Flash point : Water-based material containing no combustible components.

pH : approx. 13
at 68 °F (20 °C)
strongly alkaline

Boiling point/boiling range : approx. 212 °F (100 °C)
Based on water-content.

Vapour pressure : 17.5 Torr
at 68 °F (20 °C)
Corresp. to vapour pressure of water

Density : approx. 1 g/cm³
at 68 °F (20 °C)

Viscosity, dynamic : approx. 1 mPas
at 68 °F (20 °C)

Loss on drying : < 95 %

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : Avoid contact with strong acids.
This product is expected, by test or analogy, to slowly attack aluminum and perhaps other nonferrous metals, releasing hydrogen gas.

Hazardous decomposition products : No hazardous decomposition products known.

Hazardous reactions : When handled and stored appropriately no dangerous reactions are known

SECTION 11. TOXICOLOGICAL INFORMATION



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Data for AZ 340 Developer

- Skin irritation : Species: rabbit
Result: No skin irritation
Method: OECD 404
- Eye irritation : Species: rabbit
Classification: Risk of serious damage to eyes.
Method: OECD 405
- Further information : The product has not been tested; the labelling is based on products of similar composition or structure

Data for Disodium tetraborate (1330-43-4)

- Acute oral toxicity : LD50: > 2,000 mg/kg
Species: rat
Source : IUCLID
- Acute inhalation toxicity : LC50: > 2 mg/l
Species: rat
Source : IUCLID
- Acute dermal toxicity : LD50: > 2,000 mg/kg
Species: rat
Source : IUCLID
- Skin irritation : Result: No skin irritation
Source : IUCLID
- Eye irritation : Result: Eye irritation
Source : IUCLID
- Sensitisation : Buehler Test
Result: Does not cause skin sensitisation.
Source : IUCLID



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Toxicology Assessment

CMR effects : Reproductive toxicity:
Presumed human reproductive toxicant, May damage fertility.
May damage the unborn child., Source : Directive 67/548/EEC

Data for Sodium hydroxide (1310-73-2)

Acute oral toxicity : LD50 Oral: 325 mg/kg
Species: rabbit
Source : OECD SIDS

: LDLo: 500 mg/kg
Species: rat
Source : OECD SIDS

Skin irritation : Species: Human
Result: Skin irritation
Method: Patch Test 24 Hrs.
Exposure time: 1 h
Source : OECD SIDS

Eye irritation : Species: rabbit eye
Result: Eye irritation
Method: OECD 405
Test substance: 2% Aqueous Solution
Source : OECD SIDS

SECTION 12. ECOLOGICAL INFORMATION

Data for AZ 340 Developer

Ecotoxicity effects

Toxicity to bacteria : EC0: approx. 10 g/l
Method: OECD 209



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Elimination information (persistence and degradability)

Biodegradability : 20 - 60 %
Method: OECD 301 D

Additional ecological information : No ecological testing was carried out on the preparation.

Data for Disodium tetraborate (1330-43-4)

Ecotoxicity effects

Toxicity to fish : LC50: 125 mg/l Exposure time: 96 h
Species: Flannelmouth sucker
Source : IUCLID

Toxicity to daphnia and other aquatic invertebrates : LC50: 141 mg/l
Exposure time: 48 h
Species: Daphnia magna
Source : IUCLID

Data for Sodium hydroxide (1310-73-2)

Ecotoxicity effects

Toxicity to fish : LC50: 125 mg/l Exposure time: 96 h
Species: mosquito fish
Source : OECD SIDS

: LC50: 180 mg/l Exposure time: 24 h
Species: Cyprinus carpio
Source : OECD SIDS

: LC50: 99 mg/l Exposure time: 48 h
Species: Lepomis macrochirus (Bluegill sunfish)
Source : OECD SIDS



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Toxicity to daphnia and other aquatic invertebrates : LC50: 40 mg/l
Exposure time: 48 h
Species: Ceriodaphnia spec.
Source : OECD SIDS

SECTION 13. DISPOSAL CONSIDERATIONS

Further information : This product would be considered a hazardous waste under RCRA due to high pH unless neutralized prior to disposal. Dispose of as hazardous waste in compliance with local and national regulations.

Contaminated packaging : Packaging that cannot be cleaned should be disposed of as product waste

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

SECTION 14. TRANSPORT INFORMATION

DOT

Not restricted

IATA

UN number : 1824
Description of the goods : Sodium hydroxide solution
Class : 8
Packing group : III
Labels : 8
Environmentally hazardous : no
Additional data for transport : PASSENGER AIRCRAFT SHIPMENT OF CONTAINERS >2.5L NOT PERMITTED. CARGO AIRCRAFT ONLY!, CARGO AIRCRAFT SHIPMENT OF CONTAINERS >5L NOT PERMITTED.

IMDG

UN number : 1824
Description of the goods : SODIUM HYDROXIDE SOLUTION
Class : 8
Packing group : III



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Labels : 8
EmS Number 1 : F-A
EmS Number 2 : S-B

Marine pollutant : no
Environmentally hazardous : no
Additional data for transport : 18 - Alkalis

SECTION 15. REGULATORY INFORMATION

Notification status

TSCA : All components of this product are listed on the TSCA Inventory.

DSL : All components of this product are on the Canadian DSL.

WHMIS Classification : E: Corrosive Material

Canadian PBT Chemicals : This product does not contain any components on the DSL that are classified as Persistent, Bioaccumulative and Toxic (PBT) under CEPA.

CERCLA Reportable Quantity :

Sodium hydroxide 1310-73-2 1000 lbs

Carcinogenicity

IARC No component 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 identified as a carcinogen or potential carcinogen by OSHA.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.



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EPCRA - Emergency Planning and Community Right-to-Know Act

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

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

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

Ozone-Depletion Potential : 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).

US. Clean Air Act - Hazardous Air Pollutants (HAP)

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

US. Clean Air Act Section 112(r); Regulated toxic and flammable substances 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 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

US. Clean Air Act Section 111 SOCM Intermediate or Final Volatile Organic Compounds (VOC) - 40 CFR part 60.489

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM 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

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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US State Regulations

Massachusetts Right To Know Components	: Sodium hydroxide	1310-73-2
Pennsylvania Right To Know Components	: Water	7732-18-5
	Disodium tetraborate	1330-43-4
	Sodium hydroxide	1310-73-2
New Jersey Right To Know Components	: Water	7732-18-5
	Disodium tetraborate	1330-43-4
	Sodium hydroxide	1310-73-2
California Prop. 65 Components	: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.	

SECTION 16. OTHER INFORMATION

This information is supplied under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, and is offered in good faith based on data available to us that we believe to be true and accurate. For any sub-heading within any section not addressed herein, no relevant information is determined or applicable. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable to the material. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate for that use. No warranty, express or implied, is made regarding the accuracy of this data, the hazards connected with the use of the material, or the results to be obtained from the use thereof. We assume no responsibility for damage or injury from the use of the product described herein. Data provided here are typical and not intended for use as product specifications.