



MATERIAL SAFETY DATA SHEET

AZ® 300 MIF Developer

Substance key: BBG70N4
Version : 1 - 4 / USA

Revision Date: 01/11/2005
Date of printing :05/06/2005

Section 01 - Product Information

Identification of the company:	AZ Electronic Materials USA Corp. 70 Meister Ave Somerville, NJ 08876, Telephone No.: +1 908-429-3562
	Information of the substance/preparation: Product Safety: +1 908-429-3562
	Emergency tel. number: +1 800-424-9300 CHEMTREC

Trade name: AZ® 300 MIF Developer
Material number: 184411
Chemical family: Aqueous Basic Developer

Section 02 - Composition information on hazardous ingredients

Hazardous Ingredients:

Component	CAS-no. (Trade secret no.)	Concentration
Tetramethylammonium hydroxide	75-59-2	2 %

Non-hazardous ingredients:

Component	CAS-no. (Trade secret no.)	Concentration
Water	7732-18-5	98 %

Section 03 - Hazards identification

Emergency overview: Clear liquid with slight amine odor.
 Noncombustible.
 Causes moderate skin irritation.
 Causes moderate eye irritation.
 Water soluble.

Expected Route of entry:
Inhalation: No hazard in normal industrial use.
Skin contact: Causes moderate skin irritation.
Eye contact: Causes moderate eye irritation.
Ingestion: May be harmful if swallowed.

Health effects of exposure:
 Eye: Causes severe eye irritation. Skin: Causes moderate skin irritation. Toxic by skin absorption. Inhalation: No hazard in normal industrial use. Ingestion: May be harmful if swallowed. Reproductive and birth defects: No information. Systemic effects: No hazard in normal industrial use.



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Tetramethylammonium hydroxide (75-59-2)
Tetramethylammonium hydroxide may cause severe irritation or caustic burns to eyes and mucous membranes. TMAH is caustic and corrosive to skin and eyes in concentrated form. Pure TMAH is highly toxic in animal tests by the oral and dermal routes of exposure.

Listed carcinogen: IARC: NO NTP: NO OSHA: NO

HMIS:

Health: 2 Flammability: 0 Reactivity: 0 Personal protection: X

Section 04 - First aid measures

After Inhalation:

Remove victim to fresh air.
Consult physician if irritation occurs.

After contact with skin:

Consult physician if exposure is extensive or if irritation occurs.
Immediately remove contaminated clothing and wash affected area thoroughly with soap and water.

After contact with eyes:

Flush thoroughly with water for 15 minutes. Get immediate medical help.

After ingestion:

If person is conscious, give water or milk to dilute stomach contents.
Never give anything by mouth to an unconscious person.
Consult physician.
Do not induce vomiting.

Advice to doctor / Treatment:

A component of this material causes severe acute toxicity in experimental animals by the oral or dermal route of exposure. Exposed individuals should be carefully observed and treated according to symptoms.

Section 05 - Fire fighting measures

Flashpoint: Water-based material with low organic content., Compatible with extinguishing agents.

Section 06 - Accidental release measures

Steps to be taken in case of spill or leak:

Wearing appropriate personal protective equipment, contain spill, collect onto inert absorbent, and place in a suitable container.
Rinse residual with water.

Section 07 - Handling and storage



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Advice on safe handling:

Use only with adequate ventilation and proper protective eyewear, gloves, and clothing.

Further info on storage conditions:

Store at appropriate temperature. See label for details.

Store in original container.

Keep from freezing.

Section 08 - Exposure controls / personal protection

Other protective equipment: Clothing suitable to prevent skin contact.

Advice on system design: Where mist is present, provide local exhaust ventilation or a respirator certified for mist by NIOSH.

Section 09 - Physical and chemical properties

Form:	Liquid
Color:	Clear, colorless
Odor:	Slight amine odor.
pH:	13.3
Solubility in water:	soluble
Density:	1 g/cm ³
Boiling point :	212 °F
Loss on drying:	97.6 %

Section 10 - Stability and reactivity

Chemical stability: Stable.

Hazardous Polymerization: Will not occur.

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.

Section 11 - Toxicological information

Product information:

Acute oral toxicity: Testing in animals shows that this material is, harmful (rat acute oral LD50 between 500 and 5000mg/kg).

Component information:

Tetramethylammonium hydroxide (75-59-2)



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Acute oral toxicity: LD50 50 mg/kg as chloride salt (rat)
Acute inhalation toxicity: No data.
Acute dermal toxicity: LD50 25 mg/kg (Guinea pig)
not determined

Section 12 - Ecological information

Component information:

Tetramethylammonium hydroxide (75-59-2)

Fish toxicity: LC50 35.1 mg/l

Daphnia toxicity: EC50 0.21 mg/l

Algae toxicity: No data available.

Section 13 - Disposal considerations

Waste disposal information:

Consult local, state, and federal regulations.

This product would be considered a hazardous waste under RCRA due to high pH unless neutralized prior to disposal.

Section 14 - Transport information

DOT not restricted

IATA

Proper shipping name: Caustic alkali liquid, n.o.s.
Class: 8
Packing group: III
UN/ID number: UN 1719
Primary risk: 8
Hazard inducer(s): Tetramethylammonium hydroxide

IMDG

Proper shipping name: Caustic alkali liquid, n.o.s.
Class: 8
Packing group: III
UN no.: UN 1719
Primary risk: 8
Hazard inducer(s): Tetramethylammonium hydroxide
EmS: F-A S-B

Further information:

Classification due to corrosivity of aluminum.

This product is not regulated for surface transportation, based on 49 CFR 173.154(d)(1).



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Section 15 - Regulatory information

TSCA Status:

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

SARA (section 311/312):

Reactive hazard:	no
Pressure hazard:	no
Fire hazard:	no
Immediate/acute:	yes
Delayed/chronic:	no

SARA 313 Information:

This product is not subject to SARA Title III Section 313 reporting requirements under 40 CFR 372.



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Section 16 - Other information

Other precautions:

The tetramethylammonium ion (TMA), as TMAH, in this developer is toxic at low levels to the water flea *ceriodaphnia dubia* (CD) used in the whole effluent toxicity (WET) biomonitoring test. Data from the supplier suggests that continuous input of 60-100 ppm TMA to a small POTW should not cause WET toxicity. It is expected that discharges to a sizable POTW will not affect the ability to pass the WET tests. However, discharges to a small POTW or direct discharges to surface waters should be carefully reviewed. Contact AZ Electronic Materials Product Safety for additional information (908-429-3593 or 908-429-3562).

Label information:

DANGER!

Alkaline solution. Contains material that may be highly toxic. May cause severe skin and eye irritation. May cause corneal damage. Dry or concentrated residue may be corrosive.

Avoid breathing mist, and avoid contact with skin, eyes, and clothing. Use only with adequate ventilation, and proper protective eyewear, gloves, and clothing. Wash thoroughly after handling. Keep container closed.

In case of contact, flush eyes with plenty of water for 15 minutes. Get medical attention immediately. Flush affected skin areas with water, and wash with mild soap and water. Remove contaminated clothing. If INHALED, remove individual to fresh air. If breathing is difficult, give oxygen. If ingested, give water or milk to dilute stomach contents. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately for ingestion or breathing problems or if skin contact is extensive.

If spilled, wear protective clothing, absorb with inert material, collect and place in a chemical waste container. Rinse residue with water.

Keep sealed in original container. Avoid freezing and direct sunlight. Product should be stored > 32 F (0 C). Empty container may contain harmful residue.

The solvent in this product is not photochemically reactive per Rule 102 of the California South Coast Air Quality Management District.

NFPA:

Health: 2

Flammability: 0

Reactivity: 0

Special Notice: NONE

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. 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



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