

MATERIAL SAFETY DATA SHEET  
AZ(R) 312 MIF DEVELOPER



Substance key: BBG7033  
Version

REVISION DATE: 02/13/2006  
Print Date: 02/13/2006

**Section 01 - Product Information**

<b>Identification of the company:</b>	AZ Electronic Materials USA Corp. 70 Meister Avenue Somerville, NJ 08876 Telephone No.: 800-515-4164
<b>Information on the substance/preparation</b>	Product Safety: 908-429-3562
<b>Emergency Tel. number:</b>	800-424-9300 CHEMTREC

**Trade name:** AZ(R) 312 MIF DEVELOPER

**Material No.:** 18441523163

**Section 02 - Composition information**

**Hazardous ingredients:**

Chemical Name	CAS-no. (Trade secret no.)	Concentration [%]
Tetramethylammonium hydroxide	75-59-2	5.00

**Non-hazardous ingredients:**

Chemical Name	CAS-no. (Trade secret no.)	Concentration [%]
Water	7732-18-5	95.00

**Section 03 - Hazardous identification**

**Emergency overview:** Clear liquid with slight amine odor., Causes severe eye irritation., Noncombustible., Causes moderate skin irritation., Toxic by skin absorption., Water soluble.

**Expected route of entry**

**Skin contact:** Contact with liquid and mist.  
**Ingestion:** no  
**Inhalation:** Inhalation of mist.  
**Eye contact:** Contact with liquid and mist.  
**Skin absorption:** no

**Health effects of exposure:**

**Component information:**

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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.

**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.

**Known effects on other illnesses:** Preexisting skin and eye conditions may be aggravated.

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

**HMIS:**

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

**NFPA:**

Health: 2 Flammability: 0 Reactivity: 0 Special notice: NONE

**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**

**Flash point:** Water-based material with low organic content., Compatible with extinguishing agents.



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## 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

**Advice on safe handling:**

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

**Further information for storage conditions:**

Store at appropriate temperature. See label for details.  
Store in original container.  
Keep from freezing.

## Section 08 - Exposure Control / personal protection

**Respiratory protection:** Chemical cartridge respirator recommended for exposures exceeding TLV.

**Hand protection:** Rubber gloves.

**Eye protection:** Safety eyewear to protect against splashes.

**Body protection:** Clothing suitable to prevent skin contact.

**Additional 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 value:** 13.6

**Solubility in water:** soluble

**Density:** 1 g/cm<sup>3</sup>

**Boiling point:** 100 °C

Loss on drying: 96 %

## Section 10 - Stability and reactivity

**Hazardous reactions:** 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

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

### Tetramethylammonium hydroxide (75-59-2)

**Acute oral toxicity:** LD50 rat  
50 mg/kg as chloride salt

### Tetramethylammonium hydroxide (75-59-2)

**Acute inhalation toxicity** No data.

### Tetramethylammonium hydroxide (75-59-2)

**Acute dermal toxicity:** LD50 Guinea pig  
25 mg/kg  
not determined

## Section 12 - Ecological information

### Tetramethylammonium hydroxide (75-59-2)

**Fish toxicity:** LC50  
35.1 mg/l

### Tetramethylammonium hydroxide (75-59-2)

**Toxicity of aquatic invertebrates:** EC50  
0.21 mg/l

### Tetramethylammonium hydroxide (75-59-2)

**Algae toxicity :** No data available.



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### Section 13 - Disposal considerations

**Product:** 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

#### Land transport

- *DOT:*  
Not restricted

#### Sea transport

- *IMDG:*  
UN-No: 1835  
Proper technical name: Tetramethylammonium hydroxide solution  
Class: 8  
Packaging group: III  
Marine pollutant:  
EmS: F-A, S-B  
MFAG:  
Labels: 8

#### Air transport

- *ICAO/IATA-DGR:*  
UN/ID No.: UN 1835  
Proper technical name: Tetramethylammonium hydroxide solution  
Class: 8  
Packaging group: III  
Labels: 8

### 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

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reporting requirements under 40 CFR 372.

## Section 16 - Other information

### Further information

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 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.

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

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