

## Positive Developer

418



For removing exposed resist during the positive photofabrication process.

- Dissolves exposed photoresist
- Concentrated formulation - dilute one part developer to ten parts water
- For best results, use in conjunction with M.G. Foam Brush (Cat. No. [416-S](#))
- Also available in the M.G. Photofabrication Kit (Cat. No. [416-K](#)) .

### Available Sizes

Catalog Number	Sizes Available	Description
418-500ML	500 mL (17 fl. oz)	Liquid



# Material Safety Data Sheet

## Section 1: Product Identification

**MSDS Code: 418 - liquid**

**Name: Developer**

**Related Part Numbers: 418-500ML**

Use: For developing M.G. Chemicals pre-sensitized boards.

## Section 2: Hazardous Ingredients

CAS#	Chemical Name	Percentage by weight	ACGIH TWA	Osha Pel	Osha Stel
n/a	De-ionized water	90 - 96	n/a	n/a	n/a
1310-73-2	sodium hydroxide	4 - 10	2mg/m <sup>3</sup>	2mg/m <sup>3</sup>	n/e

## Section 3: Hazards Identification

**WHMIS Codes:** D2B, E

**NFPA Ratings:** Health 2 Flammability 0 Reactivity 1

**HMIS Ratings:** Health 3 Flammability 0 Reactivity 1

**Eyes:** Causes severe eye burns.

**Skin:** Causes skin burns. May cause deep ulcers of the skin.

**Inhalation:** Causes severe irritation of the respiratory tract with coughing, burns, and breathing difficulty.

**Ingestion:** Harmful if swallowed. Causes gastrointestinal tract burns.

**Chronic:** No effects known.

## Section 4: First Aid Measure

**Eyes:** Remove contact lenses. Flush with water or saline for 20 minutes. Get medical aid.

**Skin:** Wash skin with large quantities of soap and water for. Get medical aid if symptoms persist.

**Inhalation:** Immediately remove from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Ingestion:** Do not induce vomiting. If conscious, give 1-2 glasses of water. Get medical aid.

## Section 5: Fire Fighting Measures

**Autoignition Temperature:** n/a **Flash Point:** n/a **LEL / UEL:** n/a

**Extinguishing Media:** n/a

**General Information:** Will not burn.

## Section 6: Accidental Release Measures

**Spill Procedure:** Remove all sources of ignition. Provide adequate ventilation. Wear appropriate personal protection. Sprinkle absorbent compound onto spill, then sweep into a plastic container. Wipe up further residue with paper towel and place in container. Wash spill area with soap and water.

## Section 7: Handling and Storage

**Handling:** Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale. Do not expose container to heat or flame.

**Storage:** Store in a cool, dry, well ventilated area, away from incompatible substances. Keep from freezing.

## Section 8: Exposure Controls

**Routes of entry:** Eyes, ingestion, inhalation, and skin.

**Ventilation:** Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.

**Personal Protection:** Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Use a NIOSH approved respirator when necessary.

## Section 9: Physical and Chemical Properties

<b>Physical State:</b>	Liquid	<b>Odor:</b>	none	<b>Solubility:</b>	miscible	<b>Evaporation Rate:</b>	slow
<b>Boiling Point:</b>	100°C	<b>Specific Gravity:</b>	1.1	<b>Vapor Pressure:</b>	1 PSI @21°C	<b>Vapor Density:</b>	1(Air=1) <b>pH:</b> 12

## Section 10: Stability and Reactivity

**Stability:** Stable at normal temperatures and pressures.

**Conditions to avoid:** Temperatures over 40°C, ignition sources, and incompatible materials. Exposure to moist air or water.

**Incompatibilities:** Acids, zinc, cinnamaldehyde, chloroform + methane, corrosive to metals.

**Polymerization:** Will not occur.

**Decomposition:** Toxic fumes of sodium oxide, sodium peroxide fumes.

## Section 11: Toxicological Information

<b>Sensitization:</b> (effects of repeated exposure)	Prolonged or repeated skin contact may cause dermatitis.
<b>Carcinogenicity:</b> (risk of cancer)	No
<b>Teratogenicity:</b> (risk of malformation in an unborn fetus)	No
<b>Reproductive Toxicity:</b> (risk of sterility)	No
<b>Mutagenicity:</b> (risk of heritable genetic effects)	No
<b>Lethal Exposure Concentrations:</b>	<b>Ingestion(LD50):</b> n/e <b>Inhalation (LC50):</b> n/e <b>Skin (LD50):</b> n/e

## Section 12: Ecological Information

**General Information:** Avoid runoff into storms and sewers which lead into waterways. Water runoff can cause environmental damage.

**Environmental Impact Data:** (percentage by weight)

CFC: 0

HFC: 0

Cl.Solv.: 0

VOC: 0

HCFC: 0

ODP: 0

## Section 13: Disposal Information

**General Information:** Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage.

## Section 14: Transportation Information

**Ground:**

Consumer Commodity, ORM-D

**Air:**

Shipper must be trained and certified. Refer to IATA regulations.

**Sea:**

UN# 1824, Class 8, Packing group II. Shipper must be trained and certified. Refer to IMDG regulations.

## Section 15: Regulatory Information

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.**

**SARA** (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)

None of the chemicals in this product have a reportable quantity.

**EPCRA** (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain any chemicals subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372

**TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

**CAA** (Clean Air Act, USA)

This product does not contain any class 1 ozone depletors.

This product does not contain any class 2 ozone depletors.

This product does not contain any chemicals listed as hazardous air pollutants.

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product does not contain any chemicals listed.

**Health Canada**

Labeling and containers used in this product are listed in compliance with Consumer Chemicals and Container regulations.

**Environment Canada**

Chemicals in this product are listed on the Domestic Substances List in the Canadian Environmental Protection Act

This product does not contain any ozone depleting substances.

**Industry and Science Canada**

Labeling, product identity, net quantity declaration, minimum printing type size heights, and packaging of this product is in compliance with the Consumer Packaging and Labeling Act and Regulations. This product is not slack filled in accordance to chapter 4 prohibitions.