

**GC Electronics**  
 1801 Morgan Street  
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 www.gcelectronics.com

**Product Name: Positive Type Developer**  
 MSDS Number: 208  
 Revision Date: 3/10/11  
 Supersedes Date: 2/12/08

**MATERIAL SAFETY DATA SHEET**

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Type: PC Developing Etching  
 Product Name: **Positive Type Developer**  
 Part Number(s): **22-225**  
**22-226**

**Emergency Contact: Chemtrec**  
**Phone (24 hours): (800) 424-9300**

**Section 1 - Identification of Product**

HMIS Ratings:	Least	0
	Slight	1
Health 3	Moderate	2
Flammability 0	High	3
Reactivity 0	Extreme	4
Personal Protection	N/A	

**Section 2 - Hazardous Ingredients**

Hazardous Component:	CAS#	% By Wt.
Caustic Soda Liquid 50% Reagent Grade	1310-73-2	14.54
None of the components of this product are recognized as carcinogenic.		

Exposure Limits	(OSHA) PEL/TWA	PEL/CEILING
No. 1	N/E	N/E
No.1	(OSHA) PEL/STEL	SKIN*
	N/E	N/E
No.1	(ACGIH) TLV/TWA	TLV/CEILING
	N/E	N/E
No. 1	(ACGIH) TLV/STEL	SKIN*
	N/E	N/E

\*(Skin) absorption may contribute to the overall exposure to this material. Take appropriate measures to prevent skin contact. (Y = YES N = NO N/E = Not established)

### Section 3 - Physical Data

Boiling Point:	212 ° (F)
Evaporation Rate:	<1 (Ether=1)
Vapor Density:	>1 (Air = 1)
% Solid:	7.27 (Theoretical)
Weight Per Gallon:	8.77 (Theoretical)

(Boiling point represents boiling point of lowest boiling raw material.)

### Section 4 - Fire & Explosion Hazard Data

Flash Point:	> 200° (F) TCC
Extinguishing Media:	Use water fog, foam, dry chemical or carbon dioxide.
Special Fire Fighting Procedures And Precautions:	Clear fire area of unprotected personnel. Do not enter confined fire space without helmet, face shield, bunker coat, gloves, rubber boots, and a positive Pressure NIOSH-approved self-contained breathing apparatus.
Unusual Fire and Explosion Hazards:	Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Containers that are exposed to direct flame should be cooled with water to eliminate structural weakening of the container's wall and possible rupture.

### Section 5 - Health Hazard Data

Eye Contact:	Based on the presence of component 1 product is presumed to be corrosive to the eyes. Exposure may cause chemical burns and extensive corneal injury.
Skin Contact:	Based on the presence of component 1 product is presumed to be corrosive to the skin and exposure may cause chemical burns.
Inhalation:	Based on the presence of component 1 product vapors and/or mists are corrosive to the nose, throat, respiratory tract, and other mucous membranes. Overexposure may result in chemical pneumonitis or pulmonary edema which are potentially fatal.
Ingestion:	Based on the presence of component 1 product is corrosive and may cause chemical burns to the gastrointestinal tract.
Signs and Symptoms:	Symptoms of eye irritation include pain, tearing, reddening and swelling. Symptoms of skin irritation include reddening, swelling, rash and redness. Symptoms of respiratory irritation include runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function. Symptoms of gastrointestinal irritation include sore throat, abdominal pain, nausea, vomiting and diarrhea.
Aggravated Medical Conditions:	Pre-existing skin, eye and respiratory disorders may be aggravated by exposure to this product.
Other Health Effects:	None recognized.

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**Emergency and First Aid Procedures**

**Eye Contact:** Immediately flush eyes with copious amounts of water for at least 15 minutes while holding eyelids open. Seek prompt medical attention.

**Skin Contact:** Immediately remove contaminated clothing. Wipe excess from skin and flush with water for fifteen minutes with soap if available. Seek prompt medical attention. Do not re-use clothing unless it is decontaminated first. Contaminated leather articles cannot be decontaminated and should be disposed of.

**Inhalation:** Remove victim to fresh air and treat symptomatically. Provide oxygen if breathing is difficult. Give artificial respiration if the victim is not breathing. Seek prompt medical attention.

**Ingestion:** Do not induce vomiting. Vomiting will cause further damage to the throat. Dilute by giving water or milk to drink if the victim is conscious. Consult a physician, hospital or poison control center and/or transport to an emergency facility immediately.

**Notes for Physician:** The following component-specific information may contain contradictions, and is intentionally included to give the attending physician specific information about the individual components of the blend.

**Section 6 - Reactivity Data**

**Stability:** Stable

**Hazardous Polymerization:** Will not occur

**Conditions and Materials to Avoid:** Based on the presence of component 1 avoid strong acids. Based on the presence of component 1 avoid water contamination.

**Hazardous decomposition Products:** Carbon Dioxide, Carbon Monoxide and unidentified organic compounds may be formed during combustion.

**Section 7 - Spill or Leak Procedures**

**Large Spills:** Evacuate the hazard area of unprotected personnel. Wear appropriate respirator and protective clothing. Shut off source of leak only if safe to do so. Dike and contain. If vapor cloud forms, water fog may be used to suppress; contain run-off. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal. Flush area with water to remove trace residue; dispose of flush solutions as above.

**Small Spills:** Take up with an absorbent material and place in non-leaking containers; seal tightly for proper disposal.

**Waste Disposal:** Observe all federal, state, and local regulations regarding proper disposal.

**Section 8 - Special Protection Information**

**Respiratory Protection:** Use ventilation as required to control vapor concentrations - at least 10 air changes per hour are recommended for good general room ventilation. If exposure exceeds the PEL/TLV, use the appropriate NOISH-approved respirator.

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Protective Clothing: Wear safety glasses, goggles, or a splash shield to prevent eye contact. Contact lenses should not be worn. Wear appropriate gloves and protective clothing to prevent contact with skin and clothing.

Additional Protective Measures: Eye wash fountains and safety showers should be available for use in an emergency.

### Section 9 – Special Precautions

After contact with product or container wash with soap and water before eating, drinking, smoking, or using toilet facilities.

### Section 10 - Regulatory Information

Hazard Class: 8 This part is exempt from special requirements according to CFR 49,173-154. Limited quantities.

Packaging Class: II

UN or NA ID#: 1824

Labeling: Corrosive

Proper Shipping Name Sodium Hydroxide Solution

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### Disclaimer

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