
























## MATERIAL HAZARDS

# HAZARD SYMBOLS

## HAZARDS

Eye	
Nose	
Mouth	
Hand	
Poisonous	
Explosive	
Corrosive	
Cardinogen	
Flammable	
Fatal	
Narcotic	
Allergies	
DO NOT USE	
Toxic Gas	
Death	
Medical	
Toxic	
Cuts	
Burns	

## SAFETY PRACTICES

Wet Mop	
Ventilation	
Dustmask	
Gloves	
Wash hands	
Avoid Ingestion	
Proper Storage	
Goggles	
Avoid Flame	

# PHOTOGRAPHY

## BLACK AND WHITE PHOTOGRAPHY

### 1. DEVELOPERS COTTION

Hydroquinone

Phenol

Phenol

### 2. DEVELOPERS LONG COTTION

Hydroquinone

Phenol

Phenol

Phenol

Phenol

Phenol

### 3. DEVELOPERS BATH

Phenol

Phenol

Phenol

Phenol

### 4. STOP BATH

Phenol

### 5. FIXING BATH

Phenol

Phenol

Phenol

Phenol

Phenol

### 6. WASH BATH

## COLORED PHOTOGRAPHY

### 1. DEVELOPERS BATH - COLORED

Phenol

Phenol

Phenol

Phenol

Phenol

Phenol

Phenol

Phenol

### 2. FIXING BATH - COLORED

Phenol

Phenol

Phenol

Phenol

Phenol

Phenol

## COLORED PHOTOGRAPHY - HANDY PROCESS

### 1. DEVELOPERS

### 2. FIXING BATH

### 3. WASH BATH

### 4. DRYING BATH

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## PHOTOGRAPHY

All darkroom processing involves handling and mixing of chemicals. Many of these are moderately to highly toxic by skin contact, ingestion, and inhalation. Proper safety practices should be strictly adhered to at all times

Cover acid baths and other chemicals when not in use to prevent release of toxic fumes

















Store concentrated acids and other corrosive chemicals on low shelves to reduce the chance of facial burns in case of breakage

Always add acid to water and the never reverse procedure












Always have an eye-wash water bottle filled and placed in appropriate location for emergency use

Minimum ventilation should provide for at least ten changes of air per hour

















**PHOTOGRAPHY  
BLACK AND WHITE**

MATERIAL	SYMBOL	HAZARD
<u>DEVELOPERS</u> <u>COMMON</u> <u>HYDROQUINONE</u>	 M  M  H  M	<p>Prolonged eye contact may cause depigmentation and eye injury</p> <p>Ingestion and inhalation may cause tinnitus, dizziness, muscular twitching, increased respiration, cyanosis, delirium , and coma</p> <p>Skin contact may cause allergies and irritation</p>
<u>MONOMETHL</u> <u>PARA-AMINOPHENOL</u> <u>SULFATE</u>	 M  M  M  M	<p>Inhalation or ingestion may cause anemia, breathing difficulty, cyanosis, dizziness and nausea</p> <p>Skin contact may cause severe allergies and skin irritation</p>
<u>PHENIDONE</u>	 L  M  M  L	<p>Similar toxicity to other developers but it is least toxic by skin contact</p>
<u>DEVELOPERS</u> <u>LESS COMMON</u> <u>AMENOPHENOL</u>	 M  M  M  M	<p>Acute inhalation or ingestion may cause cyanosis</p> <p>Chronic inhalation may cause bronchial asthma</p> <p>Repeated and prolonged skin contact may cause allergies and skin allergies</p>








PHOTOGRAPHY  
 BLACK AND WHITE

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
  	Wear goggles Wear gloves Handle powder in fume hood or wear dust mask	
  	Wear gloves Wear goggles when handling Mix powder in fume hood or wear a dust mask	
 	Mix powder in fume hood or wear dust mask Wear gloves when handling	
  	Wear goggles Wear gloves Mix powder in fume hood or wear a dust mask	

**PHOTOGRAPHY  
BLACK AND WHITE**















MATERIAL	SYMBOL	HAZARD
<u>DEVELOPERS</u>  <u>CATECHIN</u>	 H  H  H  H	Inhalation of dust can cause acute poisoning, cyanosis, anemia, convulsions, liver and kidney damage and breathing difficulty  Ingestion can be fatal
<u>CHOROQUINOL</u>		See CATECHIN
<u>DIAMINOPHENOL HYDROCHLORIDE</u>	 M  H  H   M	Inhalation may cause asthma  Inhalation or ingestion may cause rise in blood pressure, gastritis, vertigo, convulsions and coma  Skin contact may cause allergies and skin irritation
<u>GLYCIN</u>	 M  M  M  M	Ingestion or inhalation may cause anemia, cyanosis, breathing nausea and dizziness  Skin contact may cause allergies and skin irritation
<u>PHENYLENEDIAMINE</u>	 M  H  H  M	Inhalation may cause severe asthma and irritation of upper respiratory passages  Ingestion may cause vertigo, nervous system damage , gastritis, liver and spleen damage, double vision and weakness

PHOTOGRAPHY  
 BLACK AND WHITE






SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	AVOID	
	AVOID	
	AVOID	
  	Wear goggles Wear gloves when handling Mix powders in fume hood or wear dust mask	
	AVOID	














**PHOTOGRAPHY  
BLACK AND WHITE**

MATERIAL	SYMBOL	HAZARD
<b><u>DEVELOPING BATH</u></b>  <b><u>BORAX</u></b> Use: accelerator	 L  M  M  L	Inhalation, ingestion or contact with broken skin may cause nausea,diarrhea, violent vomiting and skin rash
<b><u>SODIUM CARBONATE</u></b> Use: accelerator	 H  H  H   M	Acute inhalation of dust or ingestion of solution can cause pulmonary edema  Ingestion causes intense pain and damage to the mouth and esophagus. It can be FATAL  Corrosive to mucous membranes, skin and eyes
<b><u>POTASSIUM BROMIDE</u></b> Use: restrainer	 M  M   L	Effects mostly psychological  Inhalation or ingestion of large amounts can cause depression, emaciation, somnolence, vertigo, mental confusion Severe cases may be psychoses and mental deterioration  Skin rashes may be caused by prolonged inhalation or ingestion
<b><u>SODIUM SULFITE</u></b> Use: preservative	 M  M	May cause respiratory irritation  Ingestion of small doses can cause gastric irritation. In large doses, it can cause violent colic, diarrhea, circulatory disturbance and central nervous system depression





PHOTOGRAPHY  
 BLACK AND WHITE

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	AVOID inhalation of dust  Wear gloves when handling	
	AVOID	Use borax
 	AVOID inhalation of powder  Use fume hood or wear dust mask	
	Do not heat or add strong acids without using fume hood	















PHOTOGRAPHY  
BLACK AND WHITE

MATERIAL	SYMBOL	HAZARD
<u>STOP BATH</u>  <u>ACETIC ACID</u> <u>CONCENTRATED</u>	 H  H   H   H	Is very corrosive to eyes  Corrosive by inhalation  Corrosive by ingestion to mucous membranes and stomach  Ingestion may be FATAL
<u>ACETIC ACID</u> <u>DILUTED</u> 2-3% Acid	 L  M  M	Chronic bronchitis by repeated or prolonged use
<u>FIXING BATHS</u> <u>ACETIC ACID</u> Use: neutralizer	 H  H  H  H	Chronic bronchitis by repeated or prolonged use






PHOTOGRAPHY  
 BLACK AND WHITE

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
  	<p>Wear goggles and gloves when handling</p> <p>Use local exhaust ventilation</p> <p>Always add acid to water</p> <p>Cover acid baths when not in use to prevent release of toxic vapours</p> <p>Store concentrated acids on low shelves to reduce chance of facial burns in case of breakage</p> <p>Keep first aid eye-wash bottle in convenient location for emergency use</p> <p>Thoroughly flush acid spills on effected skin area with cold running water</p> <p>Do not use salves or ointments for acid burns</p>	
	<p>AVOID prolonged inhalation of fumes</p> <p>Work in well-ventilated area</p> <p>Do not place bare hands in stop-bath. Always use tongs</p> <p>AVOID over contamination by developer solution in processing</p>	
	<p>See ACETIC ACID-stop bath</p>	



















**PHOTOGRAPHY**  
**BLACK AND WHITE**

MATERIAL	SYMBOL	HAZARD
<u><b>FIXING BATHS</b></u> <u><b>ALUM</b></u> Use: hardner	 L  L  L	Inhalation, ingestion or skin contact may cause slight psychological irritation and possibly allergies
<u><b>BORIC ACID</b></u> Use: buffer	 L  M  M  L	See BORAX- developing bath
<u><b>SODIUM SULFITE</b></u> Use: preservative	 M  M	See SODIUM SULFITE- developing bath
<u><b>SODIUM THIOSULFATE</b></u> Use: fixer	 H  L	If solution gets old, is treated with acid, or is heated, highly toxic sulfur dioxide gas is released, which may cause suffocation
<u><b>SILVER NITRATE</b></u> Use: hypo test	 H  H  H	Eye contact may cause blindness  Corrosive to mucous membranes  Ingestion may cause severe gastroenteritis, shock, vertigo, convulsions, and coma









PHOTOGRAPHY  
 BLACK AND WHITE

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	Wear gloves if handling frequently	
	See BORAX- developing bath	
	See SODIUM SULFITE- developing bath	
	Do not heat or add acid unless under a fume hood  Cover solution when not in use	
  	Wear goggles when handling  Wear dust mask  Wear gloves	

**PHOTOGRAPHY  
COLOR**















MATERIAL	SYMBOL	HAZARD
<u>DEVELOPING BATH</u> <u>COMMON CHEMICALS</u> <u>BENZYL ALCOLOL</u>	 L  L  L  L	Inhalation irritant  Skin contact may cause slight irritation
<u>CELLOSOLVE</u>	 M  M  H   M	Inhalation may cause kidney damage, anemia, behavioral change, narcosis, and in large amounts may cause edema  Ingestion and skin contact - see above  Skin contact may cause defatting of skin
<u>ETHYLENE DIAMINE</u>	 M  M  M   M	Corrosive to skin and eyes in concentrated or pure form  Can be absorbed through skin  Repeated exposure may cause skin and respiratory allergies  Inhalation or ingestion may cause liver and kidney damage
<u>ETHYLENE GLYCOL</u>	 L  L  H  L	Chronic ingestion may cause kidney and liver damage
<u>POTASSIUM THIOCYANATE</u> Hydrogen cyanide gas	 L   M	Ingestion in large amounts may cause vomiting, excitation, delerium and convulsion  Chronic poisoning by ingestion may cause depression, lack of coordination, mental confusion, and rashes  Heating can cause hydrogen cyanide gas

PHOTOGRAPHY  
 COLOR







SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	Work in well-ventilated area	
  	Wear goggles  Wear gloves when handling  Use local exhaust ventilation or wear organic vapor respirator	
  	Wear goggles  Wear gloves when handling  Use local exhaust ventilation system or wear a respirator approved for ammonia and amines	
	AVOID accidental ingestion	
	Do NOT heat	




















PHOTOGRAPHY  
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MATERIAL	SYMBOL	HAZARD
<u>DEVELOPING BATH</u> <u>COMMON CHEMICALS</u>  <u>SODIUM METABORATE</u>	 M   M  	Inhalation or ingestion can cause nausea, diarrhea, vomiting and skin rash  Absorption through burned skin  Chronic poisoning can cause gastroenteritis, loss of appetite, kidney damage and nausea  Skin contact may cause burns
<u>BUTYLAMINE BORANE</u>	 H  H  H  H	May be absorbed through the skin  Skin irritation and nervous system damage
<u>TRISODIUM PHOSPHATE</u>	 M  M  L  M	May cause eye and skin burns  May irritate respiratory system if inhaled
<u>PROCESSING CHEMICALS</u> <u>COMMON</u>  <u>AMMONIUM BROMIDE</u> Use: Bleach bath	 M  M   L	In large amounts inhalation or ingestion causes depression, emaciation, somnolence, vertigo, mental confusion, vomiting, and in severe cases psychosis and mental deterioration  Prolonged or chronic ingestion or inhalation may cause skin rash











PHOTOGRAPHY  
 COLOR

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
 	Wear dust respirator if handling in powder form  Wear gloves	
	AVOID USE	
  	Wear goggles  Wear gloves when handling  Work in well-ventilated area	
	DO NOT inhale powder	













PHOTOGRAPHY  
COLOR

MATERIAL	SYMBOL	HAZARD
<u>PROCESSING CHEMICALS</u> <u>DISODIUM PHOSPHATE</u> Use: Bleach bath	 L  L  L  L	May cause slight skin irritation
<u>HYDROXYLAMINE</u> <u>SULFATE</u> Use: Neutralizing solution	 M  M  M  M	Inhalation or ingestion may cause anemia and cyanosis  Suspected teratogen  May cause irritation and allergies with skin contact
<u>SODIUM NITRATE</u> Use: Neutralizing solution	 L	If ingested may be converted by intestinal bacteria to more toxic nitrites resulting in anemia and cyanosis
<u>SUCCIN ALDEHYDE</u> Use: prehardener	 M  M  M  M	Eye irritant  Inhalation may cause irritation of respiratory system  Skin irritant
<u>SULFAMIC ACID</u> Use: Bleaching sulfur dioxide gas	 M  H  H  M	Corrosive to eyes, respiratory, and intestinal system  Heating or adding acid causes formation of highly toxic sulfur dioxide gas








PHOTOGRAPHY  
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SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
  	Wear gloves and goggles when handling  Wear dust respirator or use local exhaust ventilation	
	AVOID ingestion	
  	Wear goggles when handling  Work in well-ventilated area  Wear gloves when handling	
  	Wear goggles when handling  Wear gloves when handling  DO NOT heat or add acid	

PHOTOGRAPHY  
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MATERIAL	SYMBOL	HAZARD
<u>VAN DYKE PROCESS</u> <u>CARBON ARC</u> Gases and fumes	 H	Highly toxic by inhalation
Ultra violet light	 H	Can cause painful blistering to the surface of the eye-arc burn. Long term exposure may lead to cataracts
<u>FERRIC AMMONIUM CITRATE</u>	 L  L  L  L	Slight irritation or allergies
<u>SILVER NITRATE</u> Use: hypo test	 M  M  M  M	Eye contact may cause blindness Corrosive to mucous membranes Ingestion may cause severe gastroenteritis, shock, vertigo, convulsions, and coma
<u>SODIUM THIOSULFATE</u> sulfur dioxide gas	 H  L	Release of highly toxic sulfur dioxide gas and possible suffocation if solution gets old, is treated with acid, or is heated Ingestion of large amounts causes purging

PHOTOGRAPHY  
 BROWN PRINTING

SYMBOL	SAFETY PRACTICE * CLEAN-UP	ALTERNATIVES
	Do not use carbon arc unless vented to the outside by local exhaust system	
	Wear appropriate shade number of protective goggles	
	Wear gloves if handling frequently	
  	Wear goggles when handling Wear dust mask Wear gloves	
	Do not heat or add acid unless under a fume hood Cover solution when not in use	