1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION

Product Name: Standard B&W Film Developer
Catalog Number: N/A
Chemical Name: Mixture
Common Name: N/A
Product Use: Developer for black and white film.

MANUFACTURER

Sprint Systems of Photography, Inc.
100 Dexter Street
Pawtucket, R.I. 02860
800 356-5073

EMERGENCY TELEPHONE NUMBER

ChemTel (1-800-255-3924)

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS NUMBER</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimethylformamide</td>
<td>68-12-2</td>
<td>10 ppm</td>
<td>10 ppm</td>
</tr>
<tr>
<td>Diethylene glycol</td>
<td>111-46-6</td>
<td>N/A</td>
<td>N/E</td>
</tr>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>N/E</td>
<td>100 mg/m³ (Aerosol)</td>
</tr>
<tr>
<td>Hydroquinone</td>
<td>123-31-9</td>
<td>2 mg/m³</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>Sodium metabisulfite</td>
<td>7681-57-4</td>
<td>N/E</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td>Sodium metaborate</td>
<td>7775-19-1</td>
<td>N/E</td>
<td>N/E</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>N/E</td>
<td>N/E</td>
</tr>
</tbody>
</table>

See Section 15 for OSHA Regulatory Status

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Light yellow to brown solution with a sulfur dioxide odor. life threatening asthma.

Warning! May cause skin sensitization. May cause mild Will not burn. In case of fire, use extinguishing media irritation to skin, eyes, and the respiratory tract. Harmful suitable for the material that is burning.

POTENTIAL HEALTH EFFECTS

PRIMARY ROUTE(S) OF ENTRY

Inhalation (breathing), eye and skin contact.

SYMPTOMS OF EXPOSURE

Skin Contact: May cause mild irritation. May be absorbed through skin causing effects similar to ingestion or inhalation. Contact may cause sensitization.

Inhalation: Breathing vapors or mist may irritate the mucous membranes of the nose, throat, respiratory tract, and may cause headache, light-headedness, dizziness, nausea, and liver injury.

Eye Contact: May cause mild irritation.

Ingestion: Can cause kidney damage, and may be toxic to the embryo or cause teratogenic effects. Can cause life-threatening asthma.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

Pre-existing skin disorders, eye problems, or impaired liver and kidneys. Persons sensitized to sodium metabisulfite are at risk.

REPORTED AS CARCINOGEN OR POTENTIAL CARCINOGEN

✓ Not Applicable
OSHA Suspect Carcinogen
National Toxicology Program (NTP)
International Agency for Research on Cancer (IARC)
4. FIRST AID MEASURES

Skin contact: Wash affected areas with plenty of water, and soap if available, for several minutes. Seek medical attention if irritation develops and persists.

Inhalation: Remove from area to fresh air. Seek medical attention if respiratory irritation develops or if breathing becomes difficult. Get immediate medical attention. If victim is having trouble breathing, transport to medical care and, if available, give supplemental oxygen.

Eye contact: Rinse eye with water. Remove any contact lenses, and continue flushing with plenty of water for several minutes. Seek medical attention if irritation develops and persists.

Ingestion: Give 3-4 glasses of water, but DO NOT induce vomiting. If vomiting occurs, give fluids again. Get medical attention to determine whether vomiting or evacuation of stomach is necessary. Do not give anything by mouth to an unconscious or convulsing person.

NOTE TO PHYSICIAN
None known.

5. FIRE FIGHTING MEASURES

Flash Point and Method ............... > 200 °F (PM CC)

GENERAL HAZARD
Fire or excessive heat may produce hazardous decomposition products.

EXTINGUISHING MEDIA
In case of fire, use extinguishing media suitable for the material that is burning.

SPECIAL FIREFIGHTING INSTRUCTIONS
None known.

FIREFIGHTING EQUIPMENT
As in any fire, wear NIOSH approved, positive-pressure self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Wear appropriate protective equipment (See Section 8). Avoid contact with eyes, skin, and clothing. Ventilate area of leak or spill. Absorb with kitty litter, sand or earth and package in a suitable container for disposal.

7. HANDLING AND STORAGE

HANDLING
Wear appropriate protective equipment (See Section 8). Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

STORAGE
Keep in a tightly closed container, stored in a cool, dry, ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS
Use engineering controls to reduce air contaminants to permissible exposure level.

PERSONAL PROTECTION
Respirator: In conditions where high concentrations of vapors or mist are present or exposure limits are exceeded, wear a respirator that has been selected by technically qualified person for the specific work conditions.

Eye Protection: Wear approved safety glasses.

Gloves: Butyl rubber. Note: inspect gloves before each use and discard if they show tears, pinholes, or signs of wear.

Clothing: Wear long-sleeved clothing. Use rubber apron.

Other: Eye wash; safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

State ......................... Liquid
Color ......................... Light yellow to brown
Odor  ......................... Sulfur dioxide
Melting Point °F .............. N/A
Boiling Point °F ................ > 212
Specific Gravity @ 25 °F ........ 1.2
Vapor Density (Air = 1) ........ N/A
Vapor Pressure (mm Hg) ........ Negligible
pH ............................. 8.7
Water Solubility ............... Soluble
Solubility in other liquids . . . . . N/E

10. STABILITY AND REACTIVITY

REACTIVITY
Stable under normal use conditions. Will decompose in acid solutions, liberating toxic and irritating sulfur dioxide gas.

INCOMPATIBILITIES
Acidic materials, strong oxidizers, metals, and organic materials.

11. TOXICOLOGICAL INFORMATION

The product is not an irritant. The primary dermal irritation score was 0.08 following a 4-hour occluded dermal exposure in a modified FHSA/CPSC Design, 16 CFR 1500.

For Dimethylformamide:

Inhalation LC₅₀ (mouse): 9,400 mg/m³/2 hr
Oral LD₅₀ (rat): 2,800 mg/kg
Oral LD₅₀ (mouse): 42 mg/kg
Dermal LD₅₀ (rabbit): 4,720 mg/kg

Long-term breathing of vapors by workers has caused liver damage (hepatitis).

For Diethylene glycol:

Oral LD₅₀ (rat): 12,565 mg/kg
Oral LD₅₀ (mouse): 23,700 mg/kg
Dermal LD₅₀ (rabbit): 11,890 mg/kg

For Sodium metaborate:

Oral LD₅₀ (rat): 2,330 mg/kg

A human study of an occupationally exposed borate worker population showed no adverse reproductive effects. Animal studies of similar inorganic borates demonstrated reproductive effects in males.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

For Diethylene glycol:

96 hr LC₅₀ (fathead minnow): >100 mg/L. Cond: Static.
96 hr LC₅₀ (water flea): 0.3-1.0 mg/L. Cond: Static.
15min EC₅₀ (Photobacterium phosphoreum): 228 mg/L Microtox test.

For Hydroquinone:

96 hr LC₅₀ (rainbow trout): 0.097 mg/L
96 hr LC₅₀ (fathead minnow): 0.1-0.18 mg/L
48 hr EC₅₀ (water flea): 0.05 mg/L
30 min EC₅₀ (Photobacterium phosphoreum): 0.0382 mg/L Mictotox test.
13. DISPOSAL CONSIDERATIONS


14 TRANSPORT INFORMATION

Not regulated by DOT, ICAO, or IMDG.

15. REGULATORY INFORMATION

<table>
<thead>
<tr>
<th>OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)</th>
<th>TSCA CHEMICAL SPECIFIC RULES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes Hazardous</td>
<td>None known</td>
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<tr>
<td>_ Non-Hazardous</td>
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<table>
<thead>
<tr>
<th>CERCLA/SUPERFUND (40 CFR 117, 302)</th>
<th>INVENTORY STATUS</th>
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<tbody>
<tr>
<td>Hydroquinone; RQ - 100 lbs.</td>
<td>All ingredients of this product are on the TSCA inventory</td>
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</table>

<table>
<thead>
<tr>
<th>SARA EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355)</th>
<th>STATE REGULATIONS</th>
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</thead>
<tbody>
<tr>
<td>Hydroquinone; TPQ - 500 lbs.</td>
<td>Florida Hazardous Substance List . . .</td>
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<table>
<thead>
<tr>
<th>SARA HAZARD CATEGORIES (40 CFR 370)</th>
<th>Massachusetts Right To Know List . . .</th>
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<tbody>
<tr>
<td>Yes Acute</td>
<td>Economic - Metabisulfite.</td>
</tr>
<tr>
<td>Yes Chronic</td>
<td>ethylene glycol, hydroquinone, and sodium metabisulfite.</td>
</tr>
<tr>
<td>_ Pressure</td>
<td>Minnesota Hazardous Substance List . .</td>
</tr>
<tr>
<td>_ Reactive</td>
<td>Diethylglycol, Dimethylformamide, ethylene glycol, hydroquinone, and sodium metabisulfite.</td>
</tr>
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<td>_ None</td>
<td>New Jersey Right To Know List . . . . .</td>
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<thead>
<tr>
<th>SARA TOXIC CHEMICALS (40 CFR 372)</th>
<th>Rhode Island Hazardous Substance List:</th>
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<tbody>
<tr>
<td>Hydroquinone - &lt; 5%</td>
<td>Dimethylformamide, ethylene glycol, hydroquinone, and sodium metabisulfite.</td>
</tr>
<tr>
<td>Dimethylformamide - &lt; 5%</td>
<td></td>
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<tr>
<td>Ethylene glycol - &lt;5%</td>
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16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA RATING</th>
<th>ABBREVIATIONS</th>
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<tbody>
<tr>
<td>Health 2</td>
<td>C - Ceiling limit</td>
</tr>
<tr>
<td>Fire 1</td>
<td>N/A - Not applicable</td>
</tr>
<tr>
<td>Reactivity 0</td>
<td>N/D - Not determined</td>
</tr>
<tr>
<td></td>
<td>N/E - Not established</td>
</tr>
<tr>
<td></td>
<td>N/K - Not known</td>
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<tr>
<td></td>
<td>NAERG - North American Emergency Response Guidebook</td>
</tr>
<tr>
<td></td>
<td>RQ - Reportable Quantity</td>
</tr>
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<td></td>
<td>TPQ - Threshold Planning Quantity</td>
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<table>
<thead>
<tr>
<th>PREPARATION INFORMATION</th>
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<td>Prepared by: Sprint Systems of Photography, Inc.</td>
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<tr>
<td>Date Prepared: April 19, 2000</td>
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<td>Replaces: November 10, 1999</td>
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<th>REVISION INFORMATION</th>
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<tbody>
<tr>
<td>Sections 3, 4, 6, 7, 8, 11, 14 and 16 were updated to reflect results of a dermal irritation study.</td>
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