1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFICATION
Product Name . Record Alum Hardening Converter
Catalog Number . N/A
Chemical Name . Mixture
Common Name . N/A
Product Use . Hardener for photographic film and prints.

MANUFACTURER
Sprint Systems of Photography, Inc.
1057 Chopmist Hill Road
Scituate, RI 02857
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>Aluminum sulfate</td>
<td>10043-01-3</td>
<td>N/E</td>
<td>2 mg/m³ (soluble aluminum)</td>
</tr>
<tr>
<td>Acetic acid</td>
<td>64-19-7</td>
<td>10 ppm</td>
<td>10 ppm (TWA) · 15 ppm (STEL)</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

See Section 15 for OSHA Regulatory Status

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Clear solution with a slight sulfur dioxide odor. 
In case of fire use foam, carbon dioxide, (CO₂), or dry chemical.

DANGER! Causes permanent eye damage. Breathing vapors or mist may cause irritation of the respiratory tract or cause asthma-like symptoms. May be harmful if swallowed.

POTENTIAL HEALTH EFFECTS

PRIMARY ROUTE(S) OF ENTRY
Inhalation (breathing), skin and eye contact.

SYMPTOMS OF EXPOSURE

Skin Contact: May cause mild irritation.

Eye Contact: Causes permanent eye damage. When prepared for use, causes irritation.

Inhalation: May cause respiratory tract irritation, seen as soreness in throat, nose, and respiratory tract. Breathing vapors or mist may cause asthma-like symptoms.

Ingestion: Harmful if swallowed.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
No information found.

REPORTED AS CARCINOGEN OR POTENTIAL CARCINOGEN

Not Applicable

4. FIRST AID MEASURES

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

Eye contact: Immediately rinse eyes with water. Remove any contact lenses, and continue flushing eyes with running water for at least 15 minutes. Hold eyelids apart to ensure rinsing of...
the entire surface of the eyes and lids with water. Get immediate medical attention.

**Inhalation:** Remove from area to fresh air. If not breathing, clear airway and start mouth-to-mouth artificial respiration or use a bag-mask respirator. Get immediate medical attention. If victim is having trouble breathing, transport to medical care and, if available, give supplemental oxygen.

**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.

---

### FIRE FIGHTING MEASURES

**Flash Point and Method** ......... >200 °F (closed cup)

**GENERAL HAZARD**

None known.

**EXTINGUISHING MEDIA**

In case of fire use foam, carbon dioxide, (CO₂), or dry chemical.

---

### ACCIDENTAL RELEASE MEASURES

Wear appropriate protective equipment (See Section 8). Do not get into eyes. Avoid contact with skin or clothing. Absorb in vermiculite, dry sand or earth and place into containers. Small spills may be flushed into sewers with plenty of water.

---

### HANDLING AND STORAGE

**HANDLING**

Wear appropriate protective equipment (See Section 8). Do not get into eyes. Avoid contact with skin or clothing

**STORAGE**

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

---

### EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS**

Use engineering controls to reduce air contamination to permissible exposure level.

**PERSONAL PROTECTION**

**Respirator:** In conditions where high concentrations of vapors 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 goggles.

**Gloves:** Neoprene.

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

**Other:** Eye wash; safety shower.

---

### PHYSICAL AND CHEMICAL PROPERTIES

State ................. Liquid

Color ................. Clear

Odor ..................... Slight sulfur dioxide

Melting Point °F .......... N/A

Boiling Point °F .......... > 212

Specific Gravity @ 25 °F ........ 1.158

Vapor Density (Air = 1) ........ 0.6

Vapor Pressure (mm Hg) ........ N/D

pH .......................... 2.15

5.1 (when mixed with fixer)

Water Solubility ............... Soluble

Solubility in other liquids ........ N/D
10. **STABILITY AND REACTIVITY**

**REACTIVITY**
Stable

**HAZARDOUS DECOMPOSITION PRODUCTS**
Sulfur dioxide, sulfur trioxide, sulfuric acid vapor/mist

**INCOMPATIBILITIES**
Alkaline materials, strong oxidizers, metals, organic materials and cyanide containing materials.

**CONDITIONS TO AVOID**
Excessive heat

11. **TOXICOGICAL INFORMATION**

For **Acetic acid**:  
1 hr. Inhalation LC\textsubscript{50} Mouse: 5260 ppm  
Oral LD\textsubscript{50} Rat: 3310 mg/kg  
Dermal LD\textsubscript{50} Rabbit: 1060 μL/kg

The product is not a skin irritant. The primary dermal irritation score was 0.54 following a 4-hour occluded dermal exposure in a modified FHSA/CPSC Design, 16 CFR 1500.

For **Aluminum sulfate**:  
Oral LD\textsubscript{50} Mouse: 6207 mg/kg

12. **ECOLOGICAL INFORMATION**

**ECOTOXICOLOGICAL INFORMATION**

For **Acetic acid**:  
LC\textsubscript{50} (96 hr) fathead minnow: 88 mg/L. Conditions: Static, 18-22 °C.  
LC\textsubscript{50} (96 hr) bluegill sunfish: 75 mg/L.  
LC\textsubscript{50} (24 hr) goldfish: 423 mg/L.  
EC\textsubscript{50} (5, 15, 25 min) Photobacterium phosphoreum: 8.86-11 mg/L Microtox test. Conditions: 15 °C.  
EC\textsubscript{50} (24-48 hr) water flea: 32-47 mg/L

For **Aluminum sulfate**:  
LC\textsubscript{50} (12-96 hr) goldfish: 100 mg/l

**ENVIRONMENTAL MOVEMENT AND PARTITIONING**
None known

**ENVIRONMENTAL FATE**
None known

13. **DISPOSAL CONSIDERATIONS**

For **product as sold**:  
RCRA Waste Code: ............... D001.

For **product as used**:  

14. **TRANSPORT INFORMATION**

For **4 L and 1 L containers**:  
DOT Proper Shipping Name: ...... Consumer commodity

DOT Hazard Class ............... ORM-D

DOT I.D. Number ............... N/A

Packing Group ..................... N/A

Marking ....................... ORM-D

NAERG Guide No. ............... N/A

15. **REGULATORY INFORMATION**

**OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)**

☑️ Hazardous  ☐ Non-Hazardous

**CERCLA/SUPERFUND (40 CFR 117, 302)**

Acetic acid; reportable quantity - 5,000 lbs.

Aluminum sulfate; reportable quantity - 5,000 lbs.
SARA EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355)
N/A

SARA HAZARD CATEGORIES (40 CFR 370)
✓ Acute ✓ Chronic _ Fire
_ Pressure _ Reactive _ None

SARA TOXIC CHEMICALS (40 CFR 372)
N/A

TSCA CHEMICAL SPECIFIC RULES
N/A

INVENTORY STATUS
All ingredients of this product are on the TSCA inventory

STATE REGULATIONS
Florida Hazardous Substance List . . . Acetic acid
Massachusetts Right To Know List . . Acetic acid and aluminum sulfate
Minnesota Hazardous Substance List . Acetic acid
New Jersey Right To Know List . . . . Acetic acid and aluminum sulfate

16. OTHER INFORMATION

1. NFPA RATING
Health 3
Fire 1
Reactivity 0

2. ABBREVIATIONS
C - Ceiling limit
N/A - Not applicable
N/D - Not determined
N/E - Not established
N/K - Not known

3. OTHER INFORMATION

4. NAER - North American Emergency Response Guidebook
RQ - Reportable Quantity
TPQ - Threshold Planning Quantity

5. PREPARATION INFORMATION
Prepared by: Sprint Systems of Photography, Inc.
Date Revised: June 21, 2000
Replaces: January 13, 2000

6. REVISION INFORMATION
Sections 3, 4, 6, 7, 11 and 16 were updated to reflect results of a dermal irritation study.