SPRINT® SYSTEMS OF PHOTOGRAPHY

ARCHIVE FIXER REMOVER
SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identity: Archive Fixer Remover

Recommended use of the chemical and restrictions on use: Photographic fixer

Supplier:
Sprint Systems of Photography, Inc.
60 Kindergarten St.
Woonsocket, RI 02895
Telephone: +1 800 356-5073

Emergency Phone:
For Chemical Emergency
Call ChemTel (1-800-255-3924)

SDS Date of Preparation: 10/5/16

2. HAZARDS IDENTIFICATION

Classification in accordance with US OSHA Hazcom 2012 and Canada WHMIS 2015:
Carcinogen Category 1A
Eye Damage Category 1
Respiratory Sensitizer Category 1
Toxic to Reproduction Category 2
Skin Sensitizer Category 1
Specific Target Organ Toxicity – Repeated Exposure Category 2

GHS Label Elements:

Danger!

Statements of Hazard

Causes serious eye damage.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms. or breathing difficulties if inhaled.
May cause cancer.
Suspected of damaging fertility or the unborn child.
May cause damage to the kidneys through prolonged or repeated ingestion.

Precautionary Phrases

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe mist or vapors.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves, protective clothing, eye protection, and face protection.
In case of inadequate ventilation wear respiratory protection.

IF exposed or concerned: Get medical attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor.
IF ON SKIN: Wash with plenty of water.
If skin irritation or rash occurs: Get medical attention.
Take off contaminated clothing and wash it before reuse.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
Store locked up.
Dispose of contents and container in accordance with local and national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No.	Amount
Sodium metabisulfite	7681-57-4	<10%
Potassium salts of diethylenetriaminepentaacetic acid	Mixture	<10%
Ethylene Glycol	107-21-1	<5%
Glutaraldehyde	111-30-8	<2%
Formaldehyde	50-00-0	<0.2%

The exact concentration is being withheld as a trade secret.

4. FIRST AID MEASURES

Eye: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do then continue rinsing. Get immediate medical attention.
Skin: Remove contaminated clothing and shoes. Flush skin thoroughly with water for several minutes. Get medical attention if irritation or rash occurs. Launder clothing before re-use.
Ingestion: Seek immediate medical attention for ingestion of large amounts. Call local poison control center or go to an emergency department. Never give anything by mouth to or induce vomiting in an unconscious or drowsy person.
Inhalation: If symptoms of irritation or allergy develop, remove person from source of exposure to fresh air. Get immediate medical attention if asthmatic symptoms develop.

Most Important Symptoms: May cause serious eye irritation, redness, tearing and corneal damage. May cause skin and respiratory tract sensitization. May cause damage to the kidneys through prolonged or repeated ingestion. This product may cause reproductive harm. This product contains a small amount of formaldehyde that may cause cancer. Risk of cancer depends on duration and level of exposure.

Indication of immediate medical attention/special treatment: Immediate medical attention is required for eye contact or or if experiencing respiratory problems.

Immediate medical attention may be required for ingestion of large amounts of ethylene glycol and if symptoms occur. The principal toxic effects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. The combination of metabolic acidosis, an osmol gap and oxalate crystals in the urine is evidence of ethylene glycol poisoning.

Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. Respiratory support with mechanical ventilation may be required.

There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth, and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphagia.

Ethanol is antidotal and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. The objective is to rapidly achieve and maintain a blood ethanol level of approximately 100 mg/dl by giving a loading dose of ethanol followed by a maintenance dose. Intravenous administration of ethanol is the preferred route. Ethanol blood levels should be checked frequently. Hemodialysis may be required. In many areas, Fomepizole® administration has replaced ethanol therapy.

4-Methyl pyrazole (Fomepizole®), a potent inhibitor of alcohol dehydrogenase, has been used therapeutically to decrease the metabolic consequences of ethylene glycol poisoning. Fomepizole® is easier to use clinically than ethanol, does not cause CNS depression or hypoglycemia and requires less monitoring than ethanol. Additional therapeutic modalities which may decrease the adverse consequences of ethylene glycol metabolism are the administration of both thiamine and pyridoxine. As there are complicated and serious overdoses, we recommend you consult with the toxicologists at your poison control center.

5. FIRE FIGHTING MEASURES

Suitable (and Unsuitable) Extinguishing Media: Use media suitable for the surrounding environment.

Specific Hazards Arising From the Chemical: Fire may produce carbon dioxide, carbon monoxide, and sulfur oxide.

Special Protective Equipment and Precautions for Fire-Fighters: Firefighters should wear NIOSH approved positive pressure self-contained breathing apparatus (SCBA) and full protective clothing for all fires involving chemicals.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures: Prevent contact with eyes, skin and clothing. Do not breathe vapors or mist. Wear personal protective as described in Section 8.

Methods and Materials for Containment and Cleaning Up: Contain and collect using inert absorbent materials, such as sand and diatomaceous earth, and place in appropriate containers for disposal. Report releases as required by local, state and federal authorities.

7. HANDLING AND STORAGE

Precautions for Safe Handling: Prevent contact with eyes, skin and clothing. Do not breathe mist or vapors. Wear protective clothing and equipment as described in Section 8. Wash thoroughly with soap and water after handling. Keep containers closed when not in use.

Do not reuse containers. Empty containers retain product residues and contaminants which can be hazardous. Follow all SDS precautions when handling empty containers.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a cool, dry, well ventilated area away from heat and incompatible materials. Protect from physical damage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Sodium metabisulfite	5 mg/m^3 TWA (ACGIH TLV)
Potassium salts of diethylenetriaminepentaacetic acid	None Established
Ethylene Glycol	100 mg/m^3 CEIL (ACGIH TLV)
Glutaraldehyde	0.05 ppm STEL CEIL (ACGIH TLV) (DSEN, RSEN)
Formaldehyde	0.3 ppm CEIL (ACGIH TLV) (DSEN, RSEN) 0.75 ppm TWA, 2 ppm STEL (OSHA PEL) See 29 CFR 1910.1048(c)

Engineering Controls: Use with adequate ventilation to maintain exposure levels below the exposure limits.
Respiratory Protection: In operations where exposures limits are exceeded, an approved respirator with dust/mist cartridges or supplied air respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.
Skin Protection: Wear butyl rubber or other impervious gloves where contact is likely. Contact your glove supplier for selection assistance.
Eye Protection: Chemical safety goggles should be worn where splashing is possible.
Other: None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Blue to moss green liquid with sulfur dioxide odor.

Physical State: Liquid	**Odor Threshold:** No data available
Vapor Density: No data available	**Initial Boiling Point/Range:** >100°C (>212°F)
Solubility In Water: Soluble	**Vapor Pressure:** No data available
Relative Density: 1.29	**Evaporation Rate:** No data available
Melting/Freezing Point: No data available	**pH:** 7.9
VOC Content: Not determined	**Octanol/Water Coefficient:** No data available
Solubility: No data available	**Decomposition Temperature:** Not available
Viscosity: No data available	**Flammability (solid, gas):** Not applicable
Flashpoint: >200°F (93°C)	**Autoignition Temperature:** Not data available

Flammable Limits: LEL: Not applicable **UEL:** Not applicable	

10. STABILITY AND REACTIVITY

Reactivity: Stable under normal use conditions.
Chemical Stability: Stable under normal storage and handling conditions.
Possibility of Hazardous Reactions: Will decompose in acid solutions, liberating toxic and irritating sulfur dioxide gas.
Conditions to Avoid: Avoid extreme temperatures.
Incompatible Materials: Strong oxidizing agents and acidic materials.
Hazardous Decomposition Products: Decomposition may yield carbon dioxide, carbon monoxide, and sulfur oxide.

11. TOXICOLOGICAL INFORMATION

HEALTH HAZARDS:

Eye: May cause serious eye irritation, redness, tearing and corneal damage.
Skin: This product is not a skin irritant. The primary dermal irritation score was 0.3 following a 4-hour occluded dermal exposure in a modified FHSA/CPSC Design, 16 CFR 1500. May cause an allergic skin reaction (sensitization).
Ingestion: May cause abdominal discomfort or pain, nausea, vomiting, dizziness, drowsiness, malaise, blurring of vision, irritability, back pain, decrease in urine output, kidney failure, and central nervous system effects, including irregular eye movements, convulsions and coma. Cardiac failure, pulmonary edema and severe kidney damage may develop from swallowing large amounts of ethylene glycol. A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning.
Inhalation: Inhalation may cause slight upper respiratory irritation. Inhalation may cause an allergic reaction.

Chronic: Ethylene Glycol: A few reports have been published describing the development of weakness of the facial muscles, diminishing hearing, and difficulty with swallowing, during the late stages of severe poisoning. Prolonged occupational overexposure may cause effects on the nervous system and lung damage. Ethylene glycol has been shown to cause birth defects in studies with laboratory animals. However, the significance of this finding to humans has not been determined.

Sensitization: This product is classified as a skin and respiratory sensitizer.

Carcinogenicity: Formaldehyde exposure may cause nasopharyngeal cancer based on studies with exposed workers. There is also limited evidence that formaldehyde may cause cancer of the nasal cavity and paranasal sinuses. Formaldehyde is classified by IARC as a known human carcinogen (Group 1), and by NTP as a known human carcinogen. OSHA regulates formaldehyde as a carcinogen. None of the other components present are listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, or OSHA.

Germ Cell Mutagenicity: This product is not classified as a germ cell mutagen. Ethylene glycol: Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with

untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

Reproductive Toxicity: Ethylene Glycol: Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. Also, in a preliminary study to assess the effects of exposure of pregnant rats and mice to aerosols at concentrations 150, 1,000 and 2,500 mg/m^3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentrations, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol, percutaneous absorption of ethylene glycol from contaminated skin, or swallowing of ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1,000 and 2,500 mg/m^3) and developmental toxicity in the fetus with minimal evidence of teratogenicity (2,500 mg/m^3). The no-effects concentration (based on maternal toxicity) was 500 mg/m^3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to the skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen; there is currently no available information to suggest that ethylene glycol caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity; exposure to high aerosol concentration is only minimally effective in producing developmental toxicity; the major route for producing developmental toxicity is per orally. Formaldehyde: Formaldehyde did not cause birth defects in rats inhaling concentrations up to 10 ppm. However, a study using higher levels did show a slight but statistically significant reduction in male fetal body weight.

Numerical Measures of Toxicity:
Product ATE: 4,864 mg/kg (oral), >20 mg/L (inhalation)
Sodium metabisulfite: Oral rat LD_{50}: 1,540 mg/kg, Inhalation rat LC_{50}: > 5.5 mg/L/4 hr, Skin rat LD_{50}: > 2,000 mg/kg
Potassium salts of diethylenetriaminepentaacetic acid: No toxicity data available
Ethylene Glycol: Oral rat LD_{50}: 7,712 mg/kg, Inhalation rat LC_{50}: >200 mg/m^3/4hr, Skin rabbit LD_{50}: > 3,500 mg/kg
Glutaraldehyde: Oral rat LD_{50}: 200 mg/kg, Inhalation rat LC_{50}: 0.28-0.39 mg/L/4hr (as mist), Skin rabbit LD_{50}: >2,000 mg/kg
Formaldehyde: Oral rat LD_{50}: 100 mg/kg, Inhalation rat LC_{50}: <463 ppm/4 hr (as vapor), Skin rabbit LD_{50}: 270 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:
Sodium metabisulfite: 96 hr LC_{50} Leuciscus idus: > 220 - < 460 mg/L
Ethylene Glycol: 96 hr LC_{50} Fathead minnow: 49,000-57,000 mg/L, 48 hr EC_{50} Daphnia magna: 46,300 mg/L, 72 hr EC_{50} Selenastrum capricornutum (algae): 6,500-13,000 mg/L
Glutaraldehyde: 96 hr LC_{50} Rainbow trout: 0.8 mg/L, 21 day NOEC Daphnia magna: 5 mg/L

Persistence and Degradability:
Ethylene Glycol: Readily biodegradable - >90% in 28 days

Bioaccumulative Potential: The BCF for ethylene glycol is 10 in fish which suggests the potential for bioaccumulation in aquatic organisms is low.

Mobility in Soil: Ethylene glycol is expected to have a very high mobility is soil.

Other Adverse Effects: No data available.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with local and national environmental regulations.
RCRA Waste Code: Not regulated.

14. TRANSPORT INFORMATION

DOT Hazardous Materials Description:
Proper Shipping Name: Not Regulated
UN Number: None
Hazard Class/Packing Group: None
Labels Required: None

IMDG Shipping Name: Not Regulated
UN Number: None
IMDG Hazard Class/Packing Group: None
IMDG Hazard Labels Required: None

IATA Shipping Name: Not Regulated
UN Number: None
IATA Hazard Class/Packing Group: None
IATA Hazard Labels Required: None

15. REGULATORY INFORMATION

CERCLA 103 Reportable Quantity: This product has an RQ of 50,000 based on the RQ of Formaldehyde of 100 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

Hazard Category for Section 311/312: Acute Health, Chronic Health

Section 313 Toxic Chemicals: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372):

Component	CAS No.	Amount
Ethylene Glycol	107-21-1	<5%
Formaldehyde	50-00-0	<0.2%

Section 302 Extremely Hazardous Substances (TPQ): Formaldehyde (500 lbs.)

STATE REGULATIONS:

California Proposition 65: This product can expose you to chemicals including formaldehyde, which is known to the State of California to cause cancer, and Ethylene glycol and Methanol, which are

known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

INTERNATIONAL CHEMICAL INVENTORY STATUS:

United States TSCA: All the components are listed.
Canada DSL: All the components are listed.

16. OTHER INFORMATION

NFPA Rating: Health = 3	Flammability = 1	Instability = 0
HMIS Rating: Health = 3*	Flammability = 1	Physical Hazard = 0

*Chronic Health Hazard

Date of Current Revision: 10/5/16
Revision Summary: New SDS
Date of Previous Revision: None

NOTICE

This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. Sprint Systems of Photography, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. This information relates only to the product designated herein and does not relate to its use in combination with any other material or process.