

MATERIAL SAFETY DATA SHEET
EASTMAN KODAK COMPANY

Date of Revision: 04/11/90

Accession Number: 354617

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PRODUCT INFORMATION

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Product Name: KODAK Fixer

Formula: Solid Mixture

Kodak Catalog Number(s): CAT 197 1720 - To Make 1 Quart; CAT 197 1738 - To Make 1/2 Gallons; CAT 197 1746 - To Make 1 Gallon; CAT 197 1753 - To Make 5 Gallons; CAT 123 4699 - To Make 32 Ounces; CAT 123 8146 - To Make 128 Ounces

Mixture Number: 713

Kodak Hazard Rating Codes: R: 1 S: 1 F: 1 C: 0

Manufacturer/Supplier:

Eastman Kodak Company

343 State Street

Rochester, New York 14650

USA

For Emergency Information: (716) 722-5151

For other purposes, call the Marketing and Distribution Center in your area.

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COMPONENT INFORMATION

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	Weight Percent	CAS Number	Accession Number
Sodium thiosulfate	70-80	7772-98-7	900884
Ammonium alum	10-15	7784-25-0	132500
Sodium metabisulfite	5-10	7681-57-4	903498
Sodium acetate	5-10	127-09-3	900227
Boric anhydride	LT 1	1303-86-2	902685

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PHYSICAL DATA

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Appearance and Odor: White powder; odorless

Melting Point: Not Available

Vapor Pressure: Negligible

Evaporation Rate (n-butyl acetate = 1): Negligible

Vapor Density (Air = 1): Not Applicable

Volatile Fraction by Weight: Negligible

Specific Gravity (H₂O = 1): GT 1.0

Solubility in Water (by Weight): Appreciable

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GT = Greater than; LT = Less than

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FIRE AND EXPLOSION HAZARD

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FLASH POINT: None

EXTINGUISHING MEDIA: Water spray, Dry chemical, Carbon dioxide

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus and protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Fire or excessive heat may cause production of hazardous decomposition products. This material, like most organic materials in powder form, is capable of creating a dust explosion.

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REACTIVITY DATA

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STABILITY: Stable

INCOMPATIBILITY: Strong acids, Strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion will produce carbon dioxide and probably carbon monoxide. Oxides of sulfur may also be present.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: Will not occur.

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TOXICOLOGICAL PROPERTIES

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EXPOSURE LIMITS:

Component: Sodium metabisulfite

ACGIH TLV: 5mg/m³ - TWA (ACGIH 1989-1990)

OSHA PEL: 5mg/m³ - TWA

Component: Boric anhydride

ACGIH TLV: 10mg/m³ - TWA (ACGIH 1989-1990)

OSHA PEL: 10mg/m³ - Total Dust; 5mg/m³ - respirable fraction - TWA

EXPOSURE EFFECTS:

Inhalation: Low hazard for recommended handling.

Eyes: No specific hazard known. May cause transient irritation.

Skin: Low hazard for recommended handling.

Ingestion: Expected to be a low ingestion hazard.

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PROTECTION AND PREVENTIVE MEASURES

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VENTILATION: Good ventilation* should be sufficient. Supplementary ventilation or respiratory protection may be needed in special circumstances.

*Typically, 10 room volumes per hour is considered good general ventilation: ventilation rates should be matched to conditions of use.

Remove to fresh air following overexposure.

RESPIRATORY PROTECTION: None should be needed.

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SKIN AND EYE PROTECTION: Safety glasses recommended in industrial operations involving chemicals. If prolonged or repeated contact is necessary, gloves or other protection may be required.

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STORAGE AND DISPOSAL
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SPECIAL STORAGE AND HANDLING PRECAUTIONS: Keep container tightly closed and away from acids. Keep from contact with oxidizing materials.

SPILL, LEAK, AND DISPOSAL PROCEDURES: Flush to an acid-free sewer with large amounts of water. Discharge, treatment, or disposal may be subject to federal, state, or local laws.

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FIRST AID
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Eyes: In case of eye contact, flush with plenty of water.

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ENVIRONMENTAL EFFECTS DATA
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This environmental effects summary is written to assist in addressing emergencies created by an accidental spill, which might occur during the shipment of this product, and in general, it is not meant to address discharges to sanitary sewers or publically owned treatment works.

Some laboratory test data and published data are available for the major components of this formulation. Although this product, as such, has not been tested for environmental effects, the data, mentioned above, have been used to provide the following estimates of potential environmental impact, in the event of an accidental spill: (1-6)

This chemical formulation has a moderate biological oxygen demand, and it may cause some oxygen depletion in aquatic systems. It is expected to have a low potential to affect aquatic organisms, secondary waste treatment microorganisms, and the germination and growth of some plants. The components of this chemical formulation are biodegradable and are not likely to bioconcentrate. If diluted with a large amount of water, this chemical formulation released into the environment is not expected to have a significant impact.

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TRANSPORTATION
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For Transportation information regarding this product, please phone the Eastman Kodak Distribution Center nearest you: Rochester, NY (716) 588-9293; Oak Brook, IL (312) 954-6000; Chamblee, GA (404) 455-0123; Dallas, TX (214) 241-1611; Whittier, CA (213) 693-5222; Honolulu, HI (808) 833-1661.

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REFERENCES
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- 1. Unpublished data, Health and Environment Laboratories, Eastman Kodak Company, Rochester, NY.

2. Verschueren, K., Handbook of Environmental Data on Organic Chemicals, Second Edition, Van Nostrand Reinhold Company, New York, NY, 1983.
3. Battelle's Columbus Laboratories, Water Quality Critical Data Book - Vol. 3 - Effects of Chemicals on Aquatic Life - Selected Data from the Literature Through 1968, for the U.S. Environmental Protection Agency, Project No. 18050 GWV, Contract No. 68-01-007, May 1971.
4. National Association of Photographic Manufacturers, Inc. and Hydrosience, Inc., Environmental Effects of Photoprocessing Chemicals, National Association of Photographic Manufacturers, Harrison, NY, 1974, 2 Vols.
5. Kodak Publication J-41, BOD5 and COD of Photographic Chemicals, Eastman Kodak Co., 1981.
6. McKee, J.E. and Wolf, H.W., Eds., Water Quality Criteria, State of California, Publication No. 3-A, 1963.

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PREPARATION INFORMATION

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Health and Environment Laboratories
 Eastman Kodak Company
 Rochester, New York 14652-3615

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The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

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