

MATERIAL SAFETY DATA SHEET  
EASTMAN KODAK COMPANY

Date of Revision: 04/08/91

Kodak Accession Number: 365686

PRODUCT INFORMATION

Product Name: KODAK Rapid Fixer, Part B

Formula: Aqueous Mixture

Kodak Catalog Number(s): CAT 173 3013 - 72 ounces; CAT 197 3221 - 5 Gallons;  
CAT 146 4106 - To Make 1 Gallon; CAT 146 4114 - To Make 5 Gallons

Solution Number: 4415

Kodak Hazard Rating Codes: R: 1 S: 2 F: 0 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.

COMPONENT INFORMATION

	Weight Percent	CAS Number	Accession Number
Water	65-75	7732-18-5	035290
Aluminum sulfate	15-20	10043-01-3	907954
*Sulfuric acid**	11	7664-93-9	907485

\*Principal Hazardous Component(s)

\*\*Chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments & Reauthorization Act of 1986 and 40 CFR Part 372.

PHYSICAL DATA

Appearance: Clear water-white solution

Odor: Slight sulfur dioxide odor

Boiling Point: GT 100 C (GT 212 F)

Vapor Pressure: ca. 18 mmHg @ 20 C

Evaporation Rate (n-butyl acetate = 1): Not Available

Vapor Density (Air = 1): ca. 0.6

Volatile Fraction by Weight: ca. 71 %

Specific Gravity (H2O = 1): 1.30

pH: ca. 1.0

Solubility in Water (by Weight): Complete

GT = Greater than; LT = Less than

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 FIRE AND EXPLOSION HAZARD  
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FLASH POINT: None  
 EXTINGUISHING MEDIA: Use appropriate agent for surrounding fire.  
 SPECIAL FIRE FIGHTING PROCEDURES: None  
 UNUSUAL FIRE AND EXPLOSION HAZARDS: None

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 REACTIVITY DATA  
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STABILITY: Stable  
 INCOMPATIBILITY: Alkali  
 HAZARDOUS DECOMPOSITION PRODUCTS: None  
 CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: Will not occur.

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 TOXICOLOGICAL PROPERTIES  
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## EXPOSURE LIMITS:

Component: Sulfuric acid  
 ACGIH TLV: 1mg/m<sup>3</sup> - TWA; 3mg/m<sup>3</sup> - STEL (ACGIH 1990-1991)  
 OSHA PEL: 1mg/m<sup>3</sup> - TWA

Component: Aluminum sulfate  
 ACGIH TLV: 2mg/m<sup>3</sup> - TWA as Al (ACGIH 1990 - 1991)  
 OSHA PEL: 2mg/m<sup>3</sup> - TWA

## EXPOSURE EFFECTS:

Inhalation: Low hazard for recommended handling.

Eyes: Causes eye irritation.

Skin: Prolonged or repeated skin contact causes irritation.

Ingestion: Harmful if swallowed. May cause irritation or burns of the esophagus.

## TOXICITY DATA:

TEST	SPECIES	RESULT(1)	CLASSIFICATION (5)
Oral LD50	Rat	0.5 - 5.0 g/kg	Slightly toxic
Skin Irritation	Guinea Pig	Moderate irritation	
Eye Irritation	Rabbit	Slight irritation	
Skin Sensitization	Guinea Pig	None sensitized	

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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.

SKIN AND EYE PROTECTION: Protective gloves should be worn. Safety glasses with side shields or goggles should be worn.

STORAGE AND DISPOSAL

SPECIAL STORAGE AND HANDLING PRECAUTIONS: None

SPILL, LEAK, AND DISPOSAL PROCEDURES: Neutralize with sodium carbonate. Flush material to sewer with large amounts of water. Discharge, treatment, or disposal may be subject to federal, state, or local laws.

FIRST AID

Inhalation: If symptomatic, remove to fresh air. Get medical attention if symptoms persist.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes and get medical attention.

Skin: Immediately wash skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms are present after washing. Launder contaminated clothing before reuse. Thoroughly clean contaminated shoes.

Ingestion: If swallowed, do NOT induce vomiting. Immediately give victim a glass of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

ENVIRONMENTAL EFFECTS DATA

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: (1-4)

This chemical formulation is a strongly acidic aqueous solution, and this property may cause adverse environmental effects. This chemical formulation has no biological oxygen demand, and will not cause oxygen depletion in aquatic system. If neutralized and diluted well with water, this formulation is expected to have a low potential to affect aquatic organisms, secondary waste treatment microorganisms, and the germination and growth of plants. The components of this chemical formulation are not likely to bioconcentrate.

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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) 588-3536 or 588-3573 or 588-3505; Oak Brook, IL (312) 954-6000; Chamblee, GA (404) 455-0123; Dallas, TX (214) 241-1611; Whittier, CA (213) 945-1255; 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. Battelle's Columbus Laboratories, Water Quality Criteria 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. 68-01-0007, May 1971.
  3. Kodak Publication J-41, BOD5 and COD of Photographic Chemicals, Eastman Kodak Co., 1981.
  4. McKee, J.E. and Wolf, H.W., Eds., Water Quality Criteria, State of California, Publication No. 3-A, 1963.
  5. Hodge, H.C. and Sterner, J.H., American Industrial Hygiene Association Quarterly, 10, 93 (1949).
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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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