

MATERIAL SAFETY DATA SHEET  
EASTMAN KODAK COMPANY

Date of Revision: 05/15/91

Kodak Accession No.: 427858

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PRODUCT INFORMATION

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Product Name: KODALITH RT Liquid Developer, Part A  
Formula: Aqueous Mixture  
Kodak Catalog Number(s): CAT 106 1639 - To Make 12 Gallons  
Solution Number: 4968  
Kodak Hazard Rating Codes: R: 1 S: 2 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
Water	45-50	7732-18-5	035290
Sodium formaldehyde bisulfite	20-25	870-72-4	906450
Triethylene glycol	15-20	112-27-6	902828
*Hydroquinone**	8	123-31-9	900356
Methanol**	2	67-56-1	900467

\*Principal Hazardous Component(s)

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

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PHYSICAL DATA

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Appearance and Odor: Clear, tannish colored solution; odorless  
Boiling Point: GT 100 C ( GT 212 F) @ 760 mmHg  
Vapor Pressure: Approx 18 mmHg @ 20 C  
Evaporation Rate (n-butyl acetate = 1): Not Available  
Vapor Density (Air = 1): Approx 0.6  
Volatile Fraction by Weight: Approx 45 %  
Specific Gravity (H2O = 1): 1.226  
pH: Approx 6.5  
Solubility in Water (by Weight): Complete

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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: Use appropriate agent for surrounding fire.

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.

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## REACTIVITY DATA

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STABILITY: Stable

INCOMPATIBILITY: Strong mineral acids. Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Combustion will produce carbon dioxide and probably carbon monoxide. Sulfur dioxide

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: Will not occur.

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## TOXICOLOGICAL PROPERTIES

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## EXPOSURE LIMITS:

Component: Hydroquinone

ACGIH TLV: 2 mg/m<sup>3</sup>, 8-hr TWA (ACGIH 1990-1991)OSHA PEL: 2 mg/m<sup>3</sup>, 8-hr TWA

Component: Methanol

ACGIH TLV: 200 ppm, 8-hr TWA; 250 ppm-STEL 15 min; (skin) (ACGIH 1990-1991)

OSHA PEL: 200 ppm, 8-hr TWA; 250 ppm-STEL, (skin)

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## EXPOSURE EFFECTS:

Inhalation: LOW HAZARD FOR RECOMMENDED HANDLING.

Eyes: May cause irritation.

Skin: Prolonged or repeated skin contact may cause skin irritation and may cause an allergic skin reaction.

Ingestion: HARMFUL IF SWALLOWED.

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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: Safety glasses with side shields are recommended. For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn. The routine use of a non-alkaline (acid) type of skin cleaner and regular cleaning of working surfaces, gloves, etc, will help minimize the possibility of allergic skin reaction.

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STORAGE AND DISPOSAL

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SPECIAL STORAGE AND HANDLING PRECAUTIONS: Store away from acids. Keep from contact with oxidizing materials.

SPILL, LEAK, AND DISPOSAL PROCEDURES: Flush material 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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Inhalation: If symptomatic, remove to fresh air. Get medical attention if symptoms persist.

Eyes: Immediately flush eyes with plenty of water and get medical attention if any symptoms are present after washing.

Skin: Flush skin with plenty of water and wash with a non-alkaline (acid) type of skin cleanser. If skin irritation or an allergic skin reaction develops, get medical attention.

Ingestion: If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

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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: (1-13)

This chemical formulation is expected to have a moderate biological oxygen demand, and it may cause oxygen depletion in aquatic systems. It is expected to have a high potential to affect aquatic organisms. It is expected to have a moderate potential to affect secondary waste treatment microorganisms and the germination and growth of some plants. The organic components of this chemical formulation are biodegradable and are not expected to persist in the environment. They are not likely to bioconcentrate. The direct instantaneous discharge to a receiving body of water of an amount of this chemical formulation which will rapidly produce, by dilution, a final concentration of 0.05 mg/L or less is not expected to cause an adverse environmental effect. After dilution with a large amount of water, followed by secondary waste treatment, the chemicals in this formulation are not expected to have any adverse environmental impact.

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## TRANSPORTATION

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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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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8. Bringmann, G. and Kuehn, R., Z. Wasser Abwasser Forsch., 15(1), 1-6 (1982) (in German).
9. Dawson, G.W., et al., J. Hazard. Mater., 1(4), 303-18 (1975/77).
10. Juhnke, I. and Luedemann, D., Z. Wasser Abwasser Forsch., 11(5), 161-4 (1978) (in German).
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12. DeGraeve, G.M., et al., Arch. Environ. Contam. Toxicol., 9, 557-68 (1980).
13. Pomona College, Medicinal Chemistry Project, Chemical Parameter Data Base, Leo, A.J. and Hansch, C., Eds., Seaver Chemistry Laboratory, Claremont, CA, June 20, 1987.

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## PREPARATION INFORMATION

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Rochester, New York 14652-3615

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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