

MATERIAL SAFETY DATA SHEET

Microfilm Service Company
January 94

200000586/F/USA - D-0014.000K

Approval Date: 07/01/1992

Print Date: 07/04/1992

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KODAK Microfilm Fixer and Replenisher

Catalog Number(s): 190 1149 - 5 gallon(s) (U.S.)
190 1164 - 50 gallon(s) (U.S.)
817 7222 - 4 gallon(s) (U.S.)

Manufacturer/Supplier: EASTMAN KODAK COMPANY, Rochester, New York 14650

For Emergency Health, Safety & Environmental Information, call: 716-722-5151

For Other Information, call the Marketing and Distribution Center in Your Area.

Synonym(s): Concentrate: KAN 427768, PCD 4860, D-0014.000
Working solution (1:2, 1:3, 1:7): KAN 471417, D-0700.000

2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry No.)

Concentrate:
40-50 Water (007732-18-5)
40-45 Ammonium thiosulfate (007783-18-8)
5-10 Sodium acetate (000127-09-3)
1-5 Acetic acid (000064-19-7)
1-5 Sodium metabisulfite (007681-57-4)

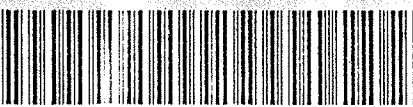
Working solution:
90-95 Water (007732-18-5)
5-10 Ammonium thiosulfate (007783-18-8)
< 1 Sodium acetate (000127-09-3)
< 1 Acetic acid (000064-19-7)
< 1 Sodium sulfite (007757-83-7)

3. HAZARDS IDENTIFICATION

LOW HAZARD FOR RECOMMENDED HANDLING

4. FIRST-AID MEASURES

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



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HI (808) 833-1661.

15. REGULATORY INFORMATION

- Material(s) known to the State of California to cause cancer: None
- Material(s) known to the State of California to cause adverse reproductive effects: None
- Carcinogenicity Classification (components present at 0.1% or more):
 - International Agency for Research on Cancer (IARC): None
 - American Conference of Governmental Industrial Hygienists (ACGIH): None
 - National Toxicology Program (NTP): None
 - Occupational Safety and Health Administration (OSHA): None
- Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372: None

16. OTHER INFORMATION

US/Canadian Label Statements:

LOW HAZARD FOR RECOMMENDED HANDLING

Additional hazard precautions for containers greater than 1 gallon of liquid or 5 pounds of solid:

IN CASE OF SPILL: Absorb spill with inert material, then place in a chemical waste container. Prevent runoff from entering drains, sewers, and streams.

Keep out of reach of children.

For additional information, see Material Safety Data Sheet (MSDS) for this material.

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 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 and the protection of the environment.

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Eyes: Any material that contacts the eye should be washed out immediately with water. Get medical attention if symptoms occur.

Skin: Wash with soap and water. Get medical attention if symptoms occur.

Ingestion: Drink 1-2 glasses of water. Seek medical attention.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Use appropriate agent for adjacent fire.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing.

Hazardous Combustion Products: None (noncombustible). (see also Hazardous Decomposition Products)

Unusual Fire and Explosion Hazards: None

6. ACCIDENTAL RELEASE MEASURES

Flush to sewer with large amounts of water.

7. HANDLING AND STORAGE

Personal Precautionary Measures: Use with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: None

Storage: Keep container closed. Keep away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

ACGIH Threshold Limit Value (TLV):

Acetic acid: 10 ppm TWA, 15 ppm STEL

Sodium metabisulfite: 5 mg/m³ TWA

OSHA (USA) Permissible Exposure Limit (PEL):

Acetic acid: 10 ppm TWA

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Sodium metabisulfite: 5 mg/m³ TWA

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions.

Personal Protection: Good industrial hygiene practice should be followed which includes preventing eye contact and minimizing skin contact and inhalation.

Respiratory Protection: None should be needed.

Eye Protection: It is a good industrial hygiene practice to minimize eye contact. Wear safety glasses with side shields (or goggles).

Skin Protection: It is a good industrial hygiene practice to minimize skin contact. For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

Recommended Decontamination Facilities: Eye bath, washing facilities, safety shower

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical Form: Liquid
- Color: Colorless - light yellow
- Odor: Slight
- Specific Gravity (water = 1):
Concentrate: 1.316
Working solution: 1.04
- Vapor Pressure at 20 C (68 F): 24 mbar (18 mm Hg)
- Vapor Density (Air = 1): 0.6
- Volatile Fraction by Weight:
Concentrate: 45%
Working solution: 93%
- Boiling Point: >100 C (>212 F)
- Solubility in Water: Complete
- pH:
Concentrate: 5.3
Working solution: 5.2
- Flash Point: None, noncombustible liquid

10. STABILITY AND REACTIVITY

Stability: Stable

Incompatibility: Contact with acid liberates flammable material, harmful gas.

Hazardous Decomposition Products: Ammonia, nitrogen oxides (NOx), sulfur dioxide.



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Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Effects of Exposure:

Inhalation: Expected to be a 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.

12. ECOLOGICAL INFORMATION

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

Summary: Data for the major components of this material have been used to estimate the environmental impact of this material. This material is a moderately acidic aqueous solution, and this property may cause adverse environmental effects. However, this material, itself, has not been tested for environmental effects. It is expected to have the following properties: a moderate biochemical oxygen demand and may cause oxygen depletion in aqueous systems, a low potential to affect aquatic organisms, a low potential to affect secondary waste treatment microbial metabolism, a moderate potential to affect the germination and/or early growth of some plants, a low potential to persist in the environment. After dilution with a large amount of water, followed by secondary waste treatment, this material is not expected to cause adverse environmental effects.

13. DISPOSAL CONSIDERATIONS

Flush to sewer with large amounts of water. Discharge, treatment, or disposal may be subject to national, state, or local laws.

14. TRANSPORT INFORMATION

- For transportation information regarding this product, please phone the Eastman Kodak Distribution Center nearest you: Rochester, NY (716) 588-3536 or 588-3573 or 588-3035; Oak Brook, IL (312) 954-6000; Chamblee, GA (404) 455-0123; Dallas, TX (214) 241-1611; Whittier, CA (213) 945-1255; Honolulu,