

MATERIAL SAFETY DATA SHEET

200001248/F/USA - N-0006.500E

Approval Date: 01/06/1993

Print Date: 01/09/1993

Page 1

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KODAK Color Developer, Process E-6, Part B

Catalog Number(s): 116 2510 - To Make 1 gallon (U.S.)  
181 5034 - Kit(s), To Make 1 gallon (U.S.)  
824 9906 - Kit(s), To Make 1 gallon (U.S.)

Manufacturer/Supplier: EASTMAN KODAK COMPANY, Rochester, New York 14650  
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): KAN 454563; PCD 5161; N-0006.500

2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry No.)

80-85	Water (007732-18-5)
15-20	4-(N-ethyl-N-2-methanesulfonylaminoethyl)-2-methylphenylenediamine sesquisulfate monohydrate (025646-71-3)
< 1	Sodium bisulfite (007631-90-5)

3. HAZARDS IDENTIFICATION

WARNING! CONTAINS:

4-(N-ethyl-N-2-methanesulfonylaminoethyl)-2-methylphenylenediamine sesquisulfate monohydrate (025646-71-3)

VAPOR IRRITATING TO THE EYES AND RESPIRATORY TRACT

CAUSES SKIN AND EYE IRRITATION

MAY CAUSE ALLERGIC SKIN REACTION

4. FIRST-AID MEASURES

Inhalation: Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

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

Skin: Immediately flush with plenty of water and wash with a non-alkaline (acid) type of skin cleaner. If skin irritation or an allergic skin reaction

E000033-3-19-67

MATERIAL SAFETY DATA SHEET

200001248/F/USA - N-0006.500E

Approval Date: 01/06/1993

Print Date: 01/09/1993

Page 2

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develops, get medical attention. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

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

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5. FIRE FIGHTING MEASURES

Extinguishing Media: Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol foam

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

Hazardous Combustion Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, oxides of sulfur

Unusual Fire and Explosion Hazards: None

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6. ACCIDENTAL RELEASE MEASURES

Flush to sewer with large amounts of water. Otherwise, absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

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7. HANDLING AND STORAGE

Personal Precautionary Measures: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Wash thoroughly after handling. The routine use of a nonalkaline (acid) type of hand cleaner and regular cleaning of working surfaces, gloves, etc. will help minimize the possibility of a skin reaction.

Prevention of Fire and Explosion: Keep from contact with oxidizing materials.

Storage: Keep container closed. Keep away from incompatible substances (see Incompatibility section).

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Sulfur dioxide gas may be liberated from the product.

ACGIH Threshold Limit Value (TLV):

Sulfur dioxide: 2 ppm TWA, 5 ppm STEL

MATERIAL SAFETY DATA SHEET

200001248/F/USA - N-0006.500E

Approval Date: 01/06/1993

Print Date: 01/09/1993

Page 3

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Sodium bisulfite: 5 mg/m3 TWA

Eastman Kodak Company industrial hygiene guideline:

4-(N-ethyl-N-2-methanesulfonylaminoethyl)-2-methylphenylenediamine  
sesquisulfate monohydrate: 1.0 mg/m3 TWA

OSHA (USA) Permissible Exposure Limit (PEL):

Sulfur dioxide: 2 ppm TWA, 5 ppm STEL

Sodium bisulfite: 5 mg/m3 TWA

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: Acid gas. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR 1910.134.

Eye Protection: Wear safety glasses with side shields (or goggles).

Skin Protection: Wear impervious gloves.

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

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9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical Form: Liquid
- Color: Light yellow
- Odor: Sulfur dioxide
- Specific Gravity (water = 1): 1.066
- Vapor Pressure at 20 C (68 F): 24 mbar (18 mm Hg)
- Vapor Density (Air = 1): 0.6
- Evaporation Rate (n-butyl acetate = 1): 0.4
- Volatile Fraction by Weight: 80-85 %
- Boiling Point: >100 C (>212 F)
- Solubility in Water: Complete
- pH: 2.0
- Flash Point: None

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10. STABILITY AND REACTIVITY

Stability: Stable

E000033-3-18-87



MATERIAL SAFETY DATA SHEET

200001248/F/USA - N-0006.500E

Approval Date: 01/06/1993

Print Date: 01/09/1993

Page 4

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Incompatibility: Strong oxidizing agents, strong bases

Hazardous Polymerization: Will not occur.

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11. TOXICOLOGICAL INFORMATION

Effects of Exposure:

Inhalation: Vapor irritating. Liberates sulfur dioxide gas which can cause irritation to the respiratory tract. Some asthmatics or hypersensitive individuals may experience difficult breathing.

Eyes: Causes irritation.

Skin: Causes irritation. May cause allergic skin reaction.

Ingestion: Expected to be a low ingestion hazard. May cause irritation of the gastrointestinal tract.

Data for 4-(N-ethyl-N-2-methanesulfonylaminoethyl)-2-methylphenylenediamine sesquisulfate monohydrate

Acute Toxicity Data:

Oral LD-50 (male rat): 400 mg/kg (target organ effects: kidney)

Oral LD-50 (female rat): 246 mg/kg

Dermal LD-50: > 1000 mg/kg (highest dose tested)

Skin irritation: slight

Repeated skin application: moderate irritation

Skin sensitization: moderate

Skin sensitization (human): positive

Eye irritation (unwashed eyes): moderate

Eye irritation (washed eyes): slight

Definitions for the following section(s): LOEL = lowest-observed-effect level, NOAEL = no observed-adverse-effect level, NOEL = no-observed-effect level.

Carcinogenicity Data:

Oral study (2 years, hamster): NOEL = 0.04 % in diet (highest dose tested)

Dermal study (2 years, mouse): NOEL = 62 mg/kg (only dose tested)

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12. ECOLOGICAL INFORMATION

MATERIAL SAFETY DATA SHEET

200001248/F/USA - N-0006.500E

Approval Date: 01/06/1993

Print Date: 01/09/1993

Page 5

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. However, this material, itself, has not been tested for environmental effects. This material is a strongly acidic aqueous solution, and this property may cause adverse environmental effects.

It is expected to have the following properties: a low biochemical oxygen demand and little potential to cause oxygen depletion in aqueous systems, a high potential to affect some aquatic organisms, a high potential to affect secondary waste treatment microbial metabolism, a moderate potential to affect the germination and/or early growth of some plants, a high potential to photochemically or chemically degrade. 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

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

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, 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

E000033-3-17-67



MATERIAL SAFETY DATA SHEET

200001248/F/USA - N-0006.500E  
Approval Date: 01/06/1993  
Print Date: 01/09/1993  
Page 6

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40 CFR Part 372: None

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16. OTHER INFORMATION

US/Canadian Label Statements:

CONTAINS: 4-(N-ethyl-N-2-methanesulfonylaminoethyl)-2-methylphenylenediamine sesquisulfate monohydrate (025646-71-3)

WARNING!

VAPOR IRRITATING TO THE EYES AND RESPIRATORY TRACT  
CAUSES SKIN AND EYE IRRITATION  
MAY CAUSE ALLERGIC SKIN REACTION

Avoid contact with eyes, skin, and clothing.  
Keep container closed.  
Use with adequate ventilation.  
Wash thoroughly after handling.

FIRST AID: If inhaled, move to fresh air. Treat symptomatically. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. In case of skin contact, wash skin with soap and plenty of water. Get medical attention. Remove contaminated clothing and shoes. Wash clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Keep out of reach of children.

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

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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 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.