

MATERIAL SAFETY DATA SHEET

200000434/F/USA - C-0144.000H

Approval Date: 03/10/1993

Print Date: 03/13/1993

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KODAK T-MAX Developer

Catalog Number(s): 140 2767 - To Make 1 gallon (U.S.)
159 9844 - To Make 5 gallons (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 444549; PCD 5337; C-0144.000
Working solution: KAN 471328; C-0144.005

2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry No.)

Concentrate:

45-50 Diethanolamine-sulfur dioxide complex (063149-47-3)
40-45 Water (007732-18-5)
1-5 Sodium bisulfite (007631-90-5)
4 Hydroquinone (000123-31-9)
< 1 Pentetic acid, pentasodium salt (000140-01-2)

Working solution:

85-90 Water (007732-18-5)
10-15 Diethanolamine-sulfur dioxide complex (063149-47-3)
< 1 Sodium bisulfite (007631-90-5)
< 1 Hydroquinone (000123-31-9)
< 1 Pentetic acid, pentasodium salt (000140-01-2)

3. HAZARDS IDENTIFICATION

Concentrate:

WARNING! CONTAINS: Hydroquinone (000123-31-9)
HEAT SENSITIVE - CAN DECOMPOSE IF HEATED
CAUSES SKIN AND EYE IRRITATION
MAY CAUSE ALLERGIC SKIN REACTION

Working solution:

WARNING! CONTAINS: Hydroquinone (000123-31-9)

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CAUSES SKIN AND EYE IRRITATION
MAY CAUSE ALLERGIC SKIN REACTION

4. FIRST-AID MEASURES

Inhalation: If symptomatic, move to fresh air. 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 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.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Water spray, carbon dioxide (CO2), dry chemical, alcohol foam

Special Fire-Fighting Procedures:

Concentrate: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products. Use water spray to keep fire-exposed containers cool.

Working solution: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.

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

Unusual Fire and Explosion Hazards:

Concentrate: Elevated temperature can cause decomposition.

Working solution: None

6. ACCIDENTAL RELEASE MEASURES

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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.

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:

Concentrate: Keep from contact with oxidizing materials. Keep away from heat.

Working solution: Keep from contact with oxidizing materials.

Storage:

Concentrate: Keep container closed. Store in a cool place. Keep away from incompatible substances (see Incompatibility section).

Working solution: Keep container closed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

ACGIH Threshold Limit Value (TLV):

Hydroquinone: 2 mg/m³ TWA

Sodium bisulfite: 5 mg/m³ TWA

OSHA (USA) Permissible Exposure Limit (PEL):

Hydroquinone: 2 mg/m³ TWA

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.

Respiratory Protection: None should be needed.

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

Skin Protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical Form: Liquid
- Color: Colorless
- Odor:
 - Concentrate: Amine
 - Working solution: Slight amine
- Specific Gravity (water = 1):
 - Concentrate: 1.23
 - Working solution: 1.04-1.05
- Vapor Pressure at 20 C (68 F): 24 mbar (18 mm Hg)
- Vapor Density (Air = 1): 0.6
- Volatile Fraction by Weight:
 - Concentrate: 40-45%
 - Working solution: 85-90%
- Boiling Point: >100 C (>212 F)
- Solubility in Water: Complete
- pH:
 - Concentrate: 8.3
 - Working solution: 8.3-8.4
- Flash Point:
 - Concentrate: None
 - Working solution: None

10. STABILITY AND REACTIVITY

Stability:

Concentrate: Stable; however, material can decompose above 145 C (293 F).
Avoid temperatures above 45 C (113 F).

Working solution: Stable

Incompatibility:

Concentrate: Strong oxidizing agents, strong acids

Working solution: Strong oxidizing agents

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

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Effects of Exposure:

Inhalation: Expected to be a low hazard for recommended handling.

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.

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. 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 high potential to affect some aquatic organisms, a moderate 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 bioconcentrate. 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

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- 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: Hydroquinone
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16. OTHER INFORMATION

US/Canadian Label Statements:

Concentrate:

CONTAINS: Hydroquinone (000123-31-9)

WARNING!

HEAT SENSITIVE - CAN DECOMPOSE IF HEATED

CAUSES SKIN AND EYE IRRITATION

MAY CAUSE ALLERGIC SKIN REACTION

Store in a cool place.

Avoid contact with eyes, skin, and clothing.

Wash thoroughly after handling.

FIRST AID: 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.

Do not handle or use until safety precautions in Material Safety Data Sheet (MSDS) have been read and understood

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

Since emptied containers retain product residue, follow label warnings even after container is emptied.

IN CASE OF FIRE: Use water spray, carbon dioxide (CO2), dry chemical, alcohol foam. Use water spray to keep fire-exposed containers cool.

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Working solution:

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Wash thoroughly after handling.

FIRST AID: 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.

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

Since emptied containers retain product residue, follow label warnings even after container is emptied.

IN CASE OF FIRE: Use water spray, carbon dioxide (CO₂), dry chemical, alcohol foam

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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