

MATERIAL SAFETY DATA SHEET

200000880/F/USA  
Approval Date: 02/05/2004  
Print Date: 06/13/2004  
Page: 1/7

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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KODAK PHOTO-FLO 600 Solution

Catalog Number(s): 146 4528 - 1 gallon (U.S.)

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

For Emergency Health, Safety & Environmental Information, call (585) 722-5151

For other information or to request an MSDS, call (800) 242-2424.

Synonym(s): KAN 354632; PCD 790; F-0108.000

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry No.)

Concentrate:

30-40 Water (007732-18-5)  
37 Ethylene glycol (000107-21-1)  
25-30 p-tert-octylphenoxy polyethoxyethyl alcohol (009002-93-1)

Working solution:

> 99 Water (007732-18-5)  
< 0.5 Ethylene glycol (000107-21-1)  
< 0.5 p-tert-octylphenoxy polyethoxyethyl alcohol (009002-93-1)

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3. HAZARDS IDENTIFICATION

Concentrate:

CONTAINS: Ethylene glycol (000107-21-1); P-tert-octylphenoxy polyethoxyethyl alcohol (009002-93-1)

WARNING!  
HARMFUL OR FATAL IF SWALLOWED  
CAN CAUSE KIDNEY DAMAGE  
CAN CAUSE CNS EFFECTS  
CAUSES EYE IRRITATION

HMIS Hazard Ratings:

Health - \* 2, Flammability - 1, Reactivity - 0, Personal Protection - B

NFPA Hazard Ratings:

Health - 1, Flammability - 1, Reactivity (Stability) - 0

Working solution:

LOW HAZARD FOR RECOMMENDED HANDLING

HMIS Hazard Ratings:

Health - 1, Flammability - 0, Reactivity - 0, Personal Protection - A

NFPA Hazard Ratings:

Health - 1, Flammability - 0, Reactivity (Stability) - 0

NOTE: HMIS and NFPA hazard indexes involve data review and interpretation that

MATERIAL SAFETY DATA SHEET

200000880/F/USA

Approval Date: 02/05/2004

Print Date: 06/13/2004

Page: 2/7

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may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. The personal protection index is only intended for general guidance on personal protection equipment (PPE) that is suitable for the potential hazards of the material. PPE (e.g., respirators) may not be needed if engineering controls (e.g., local ventilation) are adequate. An asterisk (\*), in the HMIS health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

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4. FIRST-AID MEASURES

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

Eyes:

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

Working solution: 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:

Concentrate: Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Working solution: Drink 1-2 glasses of water. Seek medical attention. Never give anything by mouth to an unconscious person.

Note to Physicians:

Concentrate: Contains ethylene glycol. Due to rapid absorption of material, evacuation of the stomach is effective only if performed immediately after ingestion. Whenever possible, stomach evacuation should be accomplished by gastric lavage with appropriate airway control to prevent aspiration.

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5. FIRE FIGHTING MEASURES

Extinguishing Media:

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

Working solution: Use appropriate agent for adjacent fire.

Special Fire-Fighting Procedures:

Concentrate: Wear self-contained breathing apparatus and protective clothing.

Working solution: None (noncombustible)

Hazardous Combustion Products:

MATERIAL SAFETY DATA SHEET

200000880/F/USA

Approval Date: 02/05/2004

Print Date: 06/13/2004

Page: 3/7

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Concentrate: Carbon dioxide, carbon monoxide

Working solution: None (noncombustible)

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 prolonged or repeated breathing of mist or vapor. Avoid contact with eyes and prolonged or repeated contact with skin. Use with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion:

Concentrate: Keep from contact with oxidizing materials.

Working solution: No special precautionary measures should be needed under anticipated conditions of use.

Storage: Keep container closed.  
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

ACGIH Threshold Limit Value (TLV):

Ethylene glycol: 100 mg/m<sup>3</sup> Ceiling, aerosol

Ventilation:

Concentrate: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Working solution: 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. If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: Organic vapor/P95. 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: 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.

MATERIAL SAFETY DATA SHEET

200000880/F/USA  
Approval Date: 02/05/2004  
Print Date: 06/13/2004  
Page: 4/7

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

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid  
Color: Colorless  
Odor: Odorless  
Specific Gravity (water = 1):  
Concentrate: 1.07  
Working solution: 1.00  
Vapor Pressure at 20°C (68°F): 24 mbar (18 mm Hg)  
Vapor Density (Air = 1): 0.6  
Volatile Fraction by Weight:  
Concentrate: 75%  
Working solution: >99%  
Boiling Point: >100°C (>212°F)  
Solubility in Water: Complete  
pH:  
Concentrate: 8.0  
Working solution: 7.0  
Flash Point:  
Concentrate: None  
Working solution: None, noncombustible liquid

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10. STABILITY AND REACTIVITY

Stability: Stable

Incompatibility:

Concentrate: Strong oxidizing agents

Working solution: None with common materials and contaminants with which the material may reasonably come into contact.

Hazardous Polymerization: Will not occur.

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11. TOXICOLOGICAL INFORMATION

Effects of Exposure:

General:

Concentrate: Contains ethylene glycol. Can cause kidney damage and CNS effects following ingestion. May cause adverse reproductive effects following ingestion based on animal data.

Inhalation: Low hazard for recommended handling.

Eyes:

Concentrate: Causes irritation.

Working solution: No specific hazard known. May cause transient irritation.

MATERIAL SAFETY DATA SHEET

200000880/F/USA  
Approval Date: 02/05/2004  
Print Date: 06/13/2004  
Page: 5/7

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Skin:

Concentrate: Prolonged or repeated contact may cause drying, cracking, or irritation.

Working solution: Low hazard for recommended handling.

Ingestion:

Concentrate: Harmful or fatal if swallowed. Can cause kidney damage.

Working solution: Expected to be a low ingestion hazard.

Acute Toxicity Data:

Oral LD-50 (rat): 3200 mg/kg  
Skin irritation: slight  
Eye irritation: moderate

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12. ECOLOGICAL INFORMATION

The following properties are ESTIMATED from the components of the preparations.

	Concentrate	Working Solution
Potential Toxicity		
Fish LC50 mg/l:	10-100	>100
Daphnid EC50 mg/l:	10-100	>100
Algal IC50 mg/l:	Not available	Not available
Organics Readily Degradable (>70%):	Yes (14 days)	Yes (14 days)
Potential Bioaccumulation:	Log Pow 2-3	Log Pow 2-3
COD (approximate g/l):	500	6
BOD5 (approximate g/l):	160	2
Potential Toxicity		
Waste treatment microorganisms EC50 (mg/l):	>100	>100

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13. DISPOSAL CONSIDERATIONS

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

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14. TRANSPORT INFORMATION

For transportation information regarding this product call the Kodak Worldwide Transportation Hazmat Hot Line: (585) 722-2400 between 8 a.m. and 5 p.m. (Eastern Standard Time), Monday through Friday.

MATERIAL SAFETY DATA SHEET

200000880/F/USA

Approval Date: 02/05/2004

Print Date: 06/13/2004

Page: 6/7

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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) (ethylene glycol): Not classifiable as a human carcinogen (A4)
- 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: Ethylene glycol

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16. OTHER INFORMATION

US/Canadian Label Statements:

Concentrate:

CONTAINS: Ethylene glycol (000107-21-1); P-tert-octylphenoxy polyethoxyethyl alcohol (009002-93-1)

WARNING!  
CAN CAUSE KIDNEY DAMAGE  
CAN CAUSE CNS EFFECTS  
HARMFUL OR FATAL IF SWALLOWED  
CAUSES EYE IRRITATION

Avoid prolonged or repeated breathing of mist or vapor.  
Avoid contact with eyes and prolonged or repeated contact with skin.  
Use with adequate ventilation.  
Wash thoroughly after handling.

FIRST AID: If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Note to Physicians: Contains ethylene glycol. Due to rapid absorption of material, evacuation of the stomach is effective only if performed immediately after ingestion. Whenever possible, stomach evacuation should be accomplished by gastric lavage with appropriate airway control to prevent aspiration.

Keep out of reach of children.

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

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

MATERIAL SAFETY DATA SHEET

200000880/F/USA

Approval Date: 02/05/2004

Print Date: 06/13/2004

Page: 7/7

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Working solution:

LOW HAZARD FOR RECOMMENDED HANDLING

Avoid prolonged or repeated breathing of mist or vapor.

Avoid contact with eyes and prolonged or repeated contact with skin.

Use with adequate ventilation.

Wash thoroughly after handling.

FIRST AID: Treat symptomatically. Get medical attention if symptoms occur.

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.

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R-1, S-2, F-1, C-0

WS:R-1, S-1, F-0, C-0