

MATERIAL SAFETY DATA SHEET

200000314/F/USA  
Approval Date: 06/29/2001  
Print Date: 10/03/2006  
Page: 1/6



1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KODAK 55 Developer

Catalog Number(s): 164 0184 - 2 1/2 gallons (U.S.) Ready-To-Use  
187 2894 - 5 gallons (U.S.) Ready-To-Use  
816 1515 - 5 quarts (U.S.) Ready-To-Use

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 454506, PCD 5169, C-0069.500

2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry No.)

85-90	Water (007732-18-5)
5-10	Sodium sulfite (007757-83-7)
4	Hydroquinone (000123-31-9)
< 2	Potassium hydroxide (001310-58-3)
< 1	Potassium carbonate (000584-08-7)

3. HAZARDS IDENTIFICATION

CONTAINS: Hydroquinone (000123-31-9), Potassium hydroxide (001310-58-3), Sodium sulfite (007757-83-7)

WARNING!

HARMFUL IF SWALLOWED

CAUSES SKIN AND EYE IRRITATION

MAY CAUSE ALLERGIC SKIN REACTION

HMIS Hazard Ratings:

Health - 2, Flammability - 0, Reactivity - 0, Personal Protection - B

NFPA Hazard Ratings:

Health - 2, Flammability - 0, Reactivity (Stability) - 0

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

4. FIRST-AID MEASURES

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

MATERIAL SAFETY DATA SHEET

200000314/F/USA  
Approval Date: 06/29/2001  
Print Date: 10/03/2006  
Page: 2/6

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

Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion: 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.

-----  
5. FIRE FIGHTING MEASURES

Extinguishing Media: Use appropriate agent for adjacent fire.

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

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

Unusual Fire and Explosion Hazards: None

-----  
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.

-----  
7. HANDLING AND STORAGE

Personal Precautionary Measures: Avoid breathing mist or vapor. 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: No special precautionary measures should be needed under anticipated conditions of use.

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

-----  
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

ACGIH Threshold Limit Value (TLV):

Hydroquinone: 2 mg/m3 TWA

Potassium hydroxide : 2 mg/m3 Ceiling

MATERIAL SAFETY DATA SHEET

200000314/F/USA

Approval Date: 06/29/2001

Print Date: 10/03/2006

Page: 3/6

-----  
OSHA (USA) Permissible Exposure Limit (PEL - 1971 Table Z-1 Values):

Hydroquinone: 2 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. If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: N95 Particulate Filter. A respirator should be worn if hazardous decomposition products are likely to be or have been released. Respirator type: Acid gas. See Stability and Reactivity Section. 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 and protective clothing appropriate for the risk of exposure.

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

-----  
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid

Color: Tan

Odor: Odorless

Specific Gravity (water = 1): 1.10

Vapor Pressure at 20°C (68°F): 24 mbar (18 mm Hg)

Vapor Density (Air = 1): 0.6

Volatile Fraction by Weight: 85-90 %

Boiling Point: >100°C (>212°F)

Solubility in Water: Complete

pH: 10.4

Flash Point: None, noncombustible liquid

-----  
10. STABILITY AND REACTIVITY

Stability: Stable

Incompatibility: Strong acids

Hazardous Decomposition Products: Oxides of sulfur

Hazardous Polymerization: Will not occur.

-----  
11. TOXICOLOGICAL INFORMATION

Effects of Exposure:

General: Hydroquinone: In F-344 rats, chronic oral administration of hydroquinone has resulted in the formation of benign kidney tumors thought to be secondary to nephropathy. Hydroquinone-induced nephropathy following oral administration has been noted in the male F-344 rat, but not in other species or rat strains tested. Although an increase in mononuclear cell

# MATERIAL SAFETY DATA SHEET

200000314/F/USA

Approval Date: 06/29/2001

Print Date: 10/03/2006

Page: 4/6

leukemia in F-344 female rats has been reported following chronic oral administration of hydroquinone, this finding was not reproduced in a subsequent study. There was no evidence of carcinogenicity in male mice following chronic oral administration of hydroquinone; some evidence of carcinogenic activity was shown in female mice by an increase in hepatocellular neoplasms which were primarily benign adenomas, although this finding was not reproduced in a subsequent study. No skin tumors were reported in mice following long-term dermal application of hydroquinone. Therefore, neoplastic responses have not been consistent across route of exposure, species, or sex. Hydroquinone is generally negative in bacterial mutagenicity tests; there is evidence for the clastogenicity (chromosome breakage) of hydroquinone in vivo and in vitro. The relevance of the chromosomal effects in test animals in predicting human risk is unclear.

Inhalation: Expected to be a low hazard for recommended handling. In contact with strong acids or if heated, sulfites may liberate sulfur dioxide gas. Sulfur dioxide gas is irritating to the respiratory tract. Some asthmatics or hypersensitive individuals may experience difficult breathing.

Eyes: Causes irritation.

Skin: Causes irritation. May cause allergic skin reaction. May cause skin depigmentation.

Ingestion: Harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea. May cause irritation of the gastrointestinal tract if swallowed.

Acute Toxicity Data for KODAK 55 Developer (KAN 354836):

Dermal LD-50: > 20 mL/kg  
Skin irritation: moderate

## 12. ECOLOGICAL INFORMATION

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

### Potential Toxicity

Fish LC50 mg/l:	1-10
Daphnid EC50 mg/l:	1-10
Algal IC50 mg/l:	10-100

Organics Readily Degradable (>70%): Yes (7 days)

Potential Bioaccumulation: Log Pow <1

COD (approximate g/l):	88
BOD5 (approximate g/l):	54

Potential Toxicity  
Waste treatment microorganisms EC50 (mg/l): >100

## 13. DISPOSAL CONSIDERATIONS

MATERIAL SAFETY DATA SHEET

200000314/F/USA

Approval Date: 06/29/2001

Print Date: 10/03/2006

Page: 5/6

-----  
Discharge, treatment, or disposal may be subject to national, state, or local laws. Flush to sewer with large amounts of water. Since emptied containers retain product residue, follow label warnings even after container is emptied.  
-----

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.  
-----

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): Hydroquinone, Group 3; Not classifiable. Sulfur dioxide, some sulfites, bisulfites and metasulfites, Group 3; Not classifiable.
    - American Conference of Governmental Industrial Hygienists (ACGIH): Hydroquinone, A4; Not classifiable as a human carcinogen.
    - 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
- 

16. OTHER INFORMATION

US/Canadian Label Statements:

CONTAINS: Hydroquinone (000123-31-9), Potassium hydroxide (001310-58-3), Sodium sulfite (007757-83-7)

WARNING!

HARMFUL IF SWALLOWED

CAUSES SKIN AND EYE IRRITATION

MAY CAUSE ALLERGIC SKIN REACTION

Avoid breathing mist or vapor.

Avoid contact with eyes, skin, and clothing.

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 contact, immediately flush eyes and skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Keep out of reach of children.

MATERIAL SAFETY DATA SHEET

200000314/F/USA

Approval Date: 06/29/2001

Print Date: 10/03/2006

Page: 6/6

-----  
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.

-----  
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.  
-----

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