

MATERIAL SAFETY DATA SHEET

200001041/F/USA  
Approval Date: 09/19/2003  
Print Date: 06/27/2006  
Page: 1/8



-----  
1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KODAK Indicator Stop Bath

Catalog Number(s):       140 8731 - To Make 64 gallons (U.S.)  
                              146 4247 - To Make 8 gallons (U.S.)  
                              891 8054 - 16 ounce(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):     Concentrate: KAN 354752; PCD 2838; I-0009.000  
                  Working solution: KAN 966067

-----  
2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight % - Component - (CAS Registry No.)

Concentrate:

85-90       Acetic acid (000064-19-7)  
10-15       Water (007732-18-5)  
< 0.1       Bromocresol purple (000115-40-2)

Working solution:

95-100      Water (007732-18-5)  
1-5         Acetic acid (000064-19-7)

-----  
3. HAZARDS IDENTIFICATION

Concentrate:

CONTAINS: Acetic acid (000064-19-7)

DANGER!  
POISON  
MAY BE FATAL OR HARMFUL IF SWALLOWED  
VAPOR EXTREMELY IRRITATING TO THE EYES AND RESPIRATORY TRACT  
CAUSES SEVERE SKIN AND EYE BURNS  
COMBUSTIBLE LIQUID AND VAPOR

HMIS Hazard Ratings:

Health - 3, Flammability - 2, Reactivity - 0, Personal Protection - H

NFPA Hazard Ratings:

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

Working solution:

CONTAINS: Acetic acid (000064-19-7)

WARNING!  
CAUSES EYE IRRITATION

HMIS Hazard Ratings:

MATERIAL SAFETY DATA SHEET

200001041/F/USA  
Approval Date: 09/19/2003  
Print Date: 06/27/2006  
Page: 2/8

-----  
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 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:

Concentrate: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention immediately.

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

Eyes:

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

Working solution: Immediately flush with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin:

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

Working solution: Wash with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes. Get medical attention if symptoms occur.

Ingestion:

Concentrate: Do NOT induce vomiting. Give victim a glass of water. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

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

-----  
5. FIRE FIGHTING MEASURES

Extinguishing Media:

MATERIAL SAFETY DATA SHEET

200001041/F/USA  
Approval Date: 09/19/2003  
Print Date: 06/27/2006  
Page: 3/8

---

Concentrate: Water spray, carbon dioxide (CO<sub>2</sub>), 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. Use water spray to keep fire-exposed containers cool.

Working solution: None (noncombustible)

Hazardous Combustion Products:

Concentrate: Carbon dioxide, carbon monoxide

Working solution: None (noncombustible)

Unusual Fire and Explosion Hazards:

Concentrate: Classified as combustible. Material contains a combustible solvent that may accumulate in the container headspace.

Working solution: None

---

6. ACCIDENTAL RELEASE MEASURES

Concentrate: Eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

Working solution: 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:

Concentrate: Do not breathe vapor at concentrations greater than the exposure limits. Do not get in eyes, on skin, on clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Working solution: Avoid breathing vapor at concentrations greater than the exposure limits. 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. Keep away from heat and flame. Use with adequate ventilation.

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

Storage:

MATERIAL SAFETY DATA SHEET

200001041/F/USA  
Approval Date: 09/19/2003  
Print Date: 06/27/2006  
Page: 4/8

-----

Concentrate: Keep container closed. 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):

Acetic acid: 10 ppm TWA, 15 ppm STEL

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

Acetic acid: 10 ppm TWA, 25 mg/m<sup>3</sup> TWA

Ventilation: 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.

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

Eye Protection:

Concentrate: If a full-face respirator is not worn, wear vapor-tight chemical goggles.

Working solution: 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, washing facilities, safety shower

-----

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid

Color:

Concentrate: Light yellow  
Working solution: Colorless

Odor:

Concentrate: Sharp vinegar  
Working solution: Vinegar

Specific Gravity (water = 1):

Concentrate: 1.07  
Working solution: 1.00

Vapor Pressure at 20°C (68°F):

Concentrate: 19.5 mbar (14.6 mm Hg)  
Working solution: 24 mbar (18 mm Hg)

MATERIAL SAFETY DATA SHEET

200001041/F/USA  
Approval Date: 09/19/2003  
Print Date: 06/27/2006  
Page: 5/8

-----

Vapor Density (Air = 1):  
Concentrate: 1.9  
Working solution: 0.6  
Volatile Fraction by Weight: 100 %  
Boiling Point: >100°C (>212°F)  
Solubility in Water: Complete  
pH:  
Concentrate: < 2  
Working solution: 2-3  
Flash Point:  
Concentrate: 53°C (128°F) (Setaflash closed cup)  
Working solution: None, noncombustible liquid

-----

10. STABILITY AND REACTIVITY

Stability: Stable

Incompatibility:

Concentrate: Strong oxidizing agents, bases

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

Hazardous Polymerization: Will not occur.

-----

11. TOXICOLOGICAL INFORMATION

Effects of Exposure:

Acute overexposure to extremely high airborne concentrations of respiratory irritants has been associated with development of an asthma-like reactive airways syndrome (RADS) in susceptible individuals. Extremely high airborne concentrations are not generated during normal conditions of use but may occur following a spill. The potential to generate extremely high airborne concentrations in a spill situation depends upon physical factors such as the concentration of the solution, the volume of the spill, the surface area of the spill, the size of the room where the spill occurred, and the ventilation rate in the room.

Inhalation:

Concentrate: Vapor extremely irritating.

Working solution: Expected to be a low hazard for recommended handling.

Eyes:

Concentrate: Causes severe burns. Vapor extremely irritating.

Working solution: Causes irritation. However, immediate flushing of the eyes with water will minimize any irritative effect.

Skin:

Concentrate: Causes severe burns.

MATERIAL SAFETY DATA SHEET

200001041/F/USA  
Approval Date: 09/19/2003  
Print Date: 06/27/2006  
Page: 6/8

-----  
Working solution: Low hazard for recommended handling.

Ingestion:

Concentrate: May be fatal if swallowed. May cause burns of the gastrointestinal tract if swallowed.

Working solution: Expected to be a low ingestion hazard.

Acute Toxicity Data:

Data for glacial acetic acid (95%)

Oral LD-50 (rat): 3.3 g/kg  
Oral LD-50 (mouse): 4.9 g/kg  
Inhalation LCLo (rat): 16,000 ppm/4 hour(s)  
Inhalation LCLo (mouse): 5620 ppm/1 hour(s)  
Dermal LD-50: 1.06 g/kg  
Skin irritation: severe  
Eye irritation: severe

-----  
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:	>100	>100
Organics Readily Degradable (>70%):	Yes (7 days)	Yes (7 days)
Potential Bioaccumulation:	Log Pow <1	Log Pow <1
COD (approximate g/l):	940	15
BOD5 (approximate g/l):	680	10
Potential Toxicity		
Waste treatment microorganisms EC50 (mg/l):	>100	>100

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 is subject to national, state, or local laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

Concentrate: Contract with a licensed chemical disposal agency.

MATERIAL SAFETY DATA SHEET

200001041/F/USA  
Approval Date: 09/19/2003  
Print Date: 06/27/2006  
Page: 7/8

-----  
Working solution: Flush to sewer with large amounts of water.  
-----

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): 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:

Concentrate:

CONTAINS: Acetic acid (000064-19-7)

DANGER!  
POISON  
MAY BE FATAL OR HARMFUL IF SWALLOWED  
CAUSES SEVERE SKIN AND EYE BURNS  
VAPOR EXTREMELY IRRITATING TO THE EYES AND RESPIRATORY TRACT  
COMBUSTIBLE LIQUID AND VAPOR

Do not breathe vapor at concentrations greater than the exposure limits.  
Do not get in eyes, on skin, on clothing.  
Use only with adequate ventilation.  
Keep away from heat and flame.  
Keep container closed.  
Wash thoroughly after handling.

FIRST AID: If swallowed, do NOT induce vomiting. Give victim a glass of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. If inhaled, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. 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 immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

MATERIAL SAFETY DATA SHEET

200001041/F/USA

Approval Date: 09/19/2003

Print Date: 06/27/2006

Page: 8/8

-----  
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 (CO<sub>2</sub>), dry chemical, alcohol foam. Use water spray to keep fire-exposed containers cool.

IN CASE OF SPILL: Absorb spill with inert material, then place in a chemical waste container. Flush residual spill or area with water. For large spills, dike for later disposal. Eliminate all ignition sources.

Working solution:

CONTAINS: Acetic acid (000064-19-7)

WARNING!

CAUSES EYE IRRITATION

Avoid breathing vapor at concentrations greater than the exposure limits. Avoid contact with eyes and prolonged or repeated contact with skin. Use with adequate ventilation. Wash thoroughly after handling.

FIRST AID: In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

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.

-----  
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. The information relating to the working solution is for guidance purposes only, and is based on correct mixing and use of the product according to instructions.  
-----

R-2, S-3, F-2, C-0

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