



Environment

I N F O R M A T I O N F R O M K O D A K

J-110 \$2.00

Formaldehyde Use in Photographic Processing Facilities

DILUTED SOLUTION CONTAINING:		Attach to Replenisher Tank and/or Process Machine Tank	
KODAK FLEXICOLOR AR Stabilizer III □ Replenisher			
WHEN DILUTED FOR USE AS RECOMMENDED			
Contains:		CAS Reg.#	
Water		7732-18-5	
*Formaldehyde		50-00-0	
Methanol		67-56-1	
Anionic Surfactant		n.a.	
Nonionic Surfactant		n.a.	
*Warning! Possible cancer hazard. May cause cancer (based on animal test data). Harmful if inhaled. Causes skin and eye irritation. May cause allergic skin reaction. In case of contact, wash with plenty of water. (see MSDS)			
Concentrates (not diluted solution) made by:		This label is for use only with the indicated product.	
Eastman Kodak Company		TM: KODAK, FLEXICOLOR	
Rochester, New York 14650		Health Info: 716-722-5151	
Product Info: 800-242-2424			

FORMALDEHYDE →

INTRODUCTION

Certain photographic processing solutions contain formaldehyde, a chemical that requires special consideration in workplaces where it is used. Formaldehyde can have mild to severe effects on health. Its use is subject to government regulations. If formaldehyde is used in your workplace, it is important to understand why it is of concern, how to determine which products in your workplace contain formaldehyde, whether those products are subject to government regulation, and what actions you must take to protect employees and maintain compliance with government regulations.

This publication is intended primarily to assist managers of

photographic processing facilities in complying with the OSHA Formaldehyde Standard. Additional state and local requirements may apply; be sure you know what they are.

IS FORMALDEHYDE USED IN YOUR WORKPLACE?

To determine whether formaldehyde is used in your workplace, review your chemical inventory and Material Safety Data Sheets (MSDSs). KODAK Publication No. J-111, *Determining Workplace Exposure to Formaldehyde*, also provides detailed information that can help you determine whether formaldehyde is used in your workplace, and, if so, in which products.

It is important to know which products in your workplace—if any—contain formaldehyde, whether those products are subject to government regulation, and what actions you must take to protect employees and maintain compliance with government regulations.



SOURCES OF FORMALDEHYDE

At room temperature, formaldehyde is a colorless, water-soluble gas with a pungent, irritating odor. Although man-made sources are addressed here, formaldehyde also exists at very low levels naturally in the environment. It is found in some foods and is produced by the human body as part of normal metabolism. Formaldehyde is manufactured and sold in aqueous solutions (formalin) and in solid form (paraformaldehyde). Man-made sources such as emissions from industrial processes, tobacco smoke, and motor vehicles contribute to higher concentrations in urban areas.

In addition to its use as a sterilizing and preserving agent, formaldehyde's chemical structure and properties allow it to be used in combination with other chemicals in a variety of products such as permanent-press fabrics, plywood and particle board, and certain types of foam insulation, paint, paper, and plastics.

HOW FORMALDEHYDE IS USED IN PHOTOGRAPHIC PRODUCTS

Formaldehyde, often combined with other chemicals, is used to stabilize the color image during the processing of certain types of film.

In some Kodak products (such as certain KODAK FLEXICOLOR and KODAK EKTACHROME E-6 Products), concentrated formaldehyde solutions have been replaced with chemicals that slowly release minute amounts of formaldehyde into the solution.

Whenever possible, we recommend you use stabilizer solutions bearing LF (low formaldehyde) on the label. If you have questions about your ability to use low formaldehyde solutions in your process, please contact your Kodak sales representative.

HEALTH EFFECTS OF FORMALDEHYDE

The potential effects of the hazards presented by formaldehyde depend on its form (solid, liquid, gas), its concentration (strength), and the length of time a person is exposed to it.

Exposure to formaldehyde gas in the air may cause mild to severe irritation of the eyes, nose, throat, and lungs. Some sensitive individuals may have an allergic respiratory response. Lifetime inhalation exposure to high concentrations of formaldehyde has been shown to cause nasal cancer in rats. Some epidemiology studies have suggested that repeated and prolonged exposure to airborne formaldehyde may be associated with certain types of cancer of the upper respiratory tract in humans. Eye or skin contact with solutions of formaldehyde may cause irritation, burns, or an allergic skin reaction. Ingestion of concentrated formaldehyde solutions containing methanol may cause blindness or death.

Odor and irritation are not reliable warning signs that formaldehyde is in the air, because the longer people are exposed to formaldehyde, the less they are able to perceive the odor or irritation.

THE OSHA FORMALDEHYDE STANDARD

Formaldehyde in the workplace is regulated by the federal government through Occupational Safety and Health Administration (OSHA) Formaldehyde Standard 29CFR §1910.1048. This standard establishes limits on employee exposure to formaldehyde vapors and solutions. It requires employers of photographic processing facilities where formaldehyde is used to:

- Determine employee exposure levels.
- Train employees on the hazards of formaldehyde and means of protection against those hazards.
- Institute proper chemical handling practices.
- Institute spill and emergency plans.
- Provide protective equipment and methods of protection to employees.
- Provide medical surveillance and medical removal to employees, as necessary.
- Maintain accurate records.

MORE INFORMATION

If you have environmental or safety questions about Kodak products or services, contact Kodak Environmental Services at 1-716-477-3194, between 8 a.m. and 5 p.m. (Eastern time) or visit KES on-line at www.kodak.com/go/kes.

Kodak also maintains a 24-hour health hotline to answer questions about the safe handling of photographic chemicals. If you need health-related information about Kodak products, call 1-716-722-5151.

For questions concerning the safe transportation of Kodak products, call Kodak Transportation Services at 1-716-722-2400.

Additional information is available on the Kodak website and through the U.S.A./Canada faxback systems.

The products and services described in this publication may not be available in all countries. In countries other than the U.S., contact your local Kodak representative, or your usual supplier of Kodak products.

The following publications are available from Kodak Customer Service or from dealers who sell Kodak products.

- J-110 *Formaldehyde Use in Photographic Processing Facilities*
- J-111 *Determining Workplace Exposure to Formaldehyde*
- J-112 *Formaldehyde Emergencies*
- J-113 *About the OSHA Formaldehyde Standard*
- J-114 *Formaldehyde Training*
- J-115 *Formaldehyde Information*



For more information about Kodak Environmental Services,
visit Kodak on-line at:
www.kodak.com/go/kes

Many technical support publications for
Kodak products can be sent to your fax machine
from the Kodak Information Center. Call:
U.S. 1-800-242-2424, Ext. 33 / Canada 1-800-295-5531
—Available 24 hours a day, 7 days a week—

If you have questions about Kodak products, call Kodak.
In the U.S.A.:

1-800-242-2424, Ext. 19, Monday–Friday
9 a.m.–7 p.m. (Eastern time)

In Canada:

1-800-465-6325, Monday–Friday
8 a.m.–5 p.m. (Eastern time)

This publication is intended to assist managers of photographic processing facilities in their compliance requirements under the OSHA Formaldehyde Standard. Additional local and state requirements may also apply. Verify the specific requirements for your facility with your legal counsel.



EASTMAN KODAK COMPANY • ROCHESTER, NY 14650

Formaldehyde Use in Photographic Processing
Facilities

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