

Material Safety Data Sheet

Revision Date: 09/17/2007
000000019860/Version: 1.2
Print Date: 02/01/2009
Page: 1/9



1. Identification of the substance/preparation and of the company/undertaking

Product name: KODAK FLEXICOLOR Stabilizer III and Replenisher / C-41

Product code: 1965482

Supplier: EASTMAN KODAK COMPANY, 343 State Street, Rochester, New York, 14650

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

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

Synonyms: None.

Product Use: photographic processing chemical, For industrial use only.

2. Hazards identification

CONTAINS: Formaldehyde (50-00-0), Methanol (67-56-1), Octylphenoxypolyethoxyethanol (9036-19-5), Sodium alkyl phenoxy ether sulphate (9014-90-8)

DANGER!

COMBUSTIBLE LIQUID AND VAPOR

POISON

CANNOT BE MADE NONPOISONOUS - VAPOR HARMFUL

MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED -

HARMFUL IF INHALED OR ABSORBED THROUGH SKIN

CAUSES EYE BURNS

MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS

DUST, MIST OR VAPOUR IRRITATING TO THE EYES AND RESPIRATORY TRACT

CAUSES SKIN IRRITATION

CANCER HAZARD - CAN CAUSE CANCER

NFPA Hazard Ratings: Health - 3, Flammability - 1, Instability - 0

NOTE: NFPA 704 (2007) hazard indexes involves data review and interpretation that may vary among companies. It is intended only for rapid, general identification of the magnitude of the potential hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight %	Components - (CAS-No.)
5 - 15	Formaldehyde (50-00-0)
1 - 5	Methanol (67-56-1)
1 - 5	Octylphenoxypolyethoxyethanol (9036-19-5)
1 - 5	Sodium alkyl phenoxy ether sulphate (9014-90-8)

4. First aid measures

Material Safety Data Sheet

Revision Date: 09/17/2007
000000019860/Version: 1.2
Print Date: 02/01/2009
Page: 2/9



Inhalation: If inhaled, remove to fresh air. Get medical attention.

Eyes: Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion: 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 centre immediately.

Notes to physician:

Treatment: Symptoms of poisoning may not appear for several hours. Keep under medical supervision for at least 48 hours.

5. Fire-fighting measures

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to cool unopened containers.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products. Fight fire from a protected location.

Hazardous Combustion Products: Carbon oxides, Sulphur oxides, formaldehyde, (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: Classified as combustible. Material contains a combustible solvent that may accumulate in the container headspace. Reducing agent. Reacts violently with oxidizing materials. Fire or excessive heat may result in rupture of container due to bulk polymerization. May cause spontaneous heating and ignition when absorbed on combustible, porous material (e.g. rags, paper, sawdust, cotton, clothing).

6. Accidental release measures

Remove all sources of ignition. Collect in a noncombustible container for prompt disposal. Clean surface thoroughly to remove residual contamination. Flush with plenty of water.

For Large Spills: Prevent runoff from entering drains, sewers, or streams.

7. Handling and storage

Personal precautions: Do not breathe mist or vapour at concentrations greater than the exposure limits. Do not get in eyes and avoid contact with skin and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Material Safety Data Sheet



Revision Date: 09/17/2007
000000019860/Version: 1.2
Print Date: 02/01/2009
Page: 3/9

Prevention of Fire and Explosion: Keep away from heat and sources of ignition. Use only with adequate ventilation. Keep from contact with oxidizing materials. Exercise caution if heating, especially in a closed container. Remove and wash contaminated clothing promptly.

Storage: Keep container tightly closed to prevent the loss of water. Keep containers tightly closed in a cool, well-ventilated place. Store in cool place. Do not freeze. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls / personal protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Formaldehyde	ACGIH	Ceiling Limit Value:	0.3 ppm
	OSHA	time weighted average	0.75 ppm
	OSHA	Short term exposure limit	2 ppm
	OSHA ACGIH	OSHA Action level:	0.5 ppm
Methanol		<i>Remarks: Sensitizer</i>	
	ACGIH	time weighted average	200 ppm
	ACGIH	Short term exposure limit	250 ppm
	ACGIH	Skin designation:	
	OSHA Z1	<i>Remarks: Can be absorbed through the skin.</i> Permissible exposure limit	200 ppm 260 mg/m3

Ventilation: Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

Respiratory protection: If formaldehyde is emitted at levels requiring respiratory protection, the following respirator type should be worn: full facepiece with cartridges or canisters specifically approved by NIOSH for protection against formaldehyde or a TypeC air-supplied respirator demand type, with full facepiece, hood, or helmet. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

Eye protection: Wear safety glasses with side shields (or goggles) and a face shield.

Hand protection: All skin contact with liquids containing 0.1 percent or more formaldehyde should be prevented by use of chemical protective clothing made of material impervious to formaldehyde and the use of other personal protective equipment. Wear impervious gloves and protective clothing appropriate for the risk of exposure.

9. Physical and chemical properties

Physical form: liquid

Colour: colourless

Odour: formaldehyde

Specific gravity: 1.02

Material Safety Data Sheet



Revision Date: 09/17/2007
000000019860/Version: 1.2
Print Date: 02/01/2009
Page: 4/9

Vapour pressure (at 20.0 °C (68.0 °F)) : 24 mbar (18.0 mm Hg)

Vapour density: 0.6

Volatile fraction by weight: 80 - 85 %

Boiling point/boilingrange: > 100.0 °C (> 212.0 °F)

Water solubility: complete

pH: 6.0

Flash point: 60.5 - 93.0 °C (140.9 - 199.4 °F) (estimated)

10. Stability and reactivity

Stability: Stable; however, may polymerize at elevated temperatures. Safe handling temperatures are dependent on specific conditions of use and are typically substantially below the onset temperature. Consult your technical safety experts.

Incompatibility: Halogenated compounds, Strong oxidizing agents, Strong bases, Strong acids, metal salts, hydroxides.

Hazardous decomposition products: formaldehyde, Sulphur oxides.

Hazardous Polymerization: Nonhazardous polymerization may occur. Avoid alkalis, heat, incompatible materials.

11. Toxicological information

Effects of Exposure

General advice: The toxicological properties of this material have not been fully investigated and its handling and use may be hazardous.

Contains: Methanol. Prolonged and repeated exposure to high vapour concentrations, skin absorption or ingestion of methyl alcohol may result in visual disturbances, metabolic acidosis, headache, giddiness, nausea, insomnia, gastric disturbance, dizziness, and slow breathing. There have been several cases reported of blindness, coma and death due to the ingestion of methyl alcohol.

Contains: Formaldehyde. Cancer hazard. Can cause cancer.

Inhalation: Harmful if inhaled. Formaldehyde is detectable by most people at levels below 1 ppm. It produces mild sensory irritation of the eyes, nose and throat at 2-5 ppm, becomes unpleasant at 5-10 ppm, and is intolerable at higher concentrations causing severe burning sensations of the nose and throat with coughing. Higher concentrations may cause chest constriction, headache, bronchopneumonia, dysphagia, edema, and spasms of the larynx and dyspnea. Exposure to formaldehyde may cause respiratory sensitization in some individuals or aggravate pre-existing asthmatic conditions.

Material Safety Data Sheet

Revision Date: 09/17/2007
000000019860/Version: 1.2
Print Date: 02/01/2009
Page: 5/9



Eyes: Causes eye burns. Vapor causes eye irritation and tearing.

Skin: Harmful if absorbed through skin. Causes skin irritation. May cause allergic skin reaction.

Ingestion: May be fatal or cause blindness if swallowed. Cannot be made nonpoisonous. May cause burns of the gastrointestinal tract if swallowed. May cause burns of the mouth, esophagus, and stomach. Retinal and kidney damage may also occur. Immediate severe abdominal pain occurs, often with vomiting, nausea, diarrhea, dizziness, unconsciousness or coma, anuria, convulsions, and possible death.

Data for Formaldehyde (CAS 50-00-0):

Acute Toxicity Data:

- Oral LD50 (rat): 800 mg/kg
- Oral LD50 (rat): 0.05 - 0.4 ml/kg
- Inhalation LCLo (rat): 250 ppm / 4 hr (formaldehyde gas)
- Dermal LD50: 270 mg/kg
- Dermal LD50 (guinea pig): >10.0 ml/kg
- Skin irritation: moderate
- Eye irritation: severe

Data for Methanol (CAS 67-56-1):

Acute Toxicity Data:

- Oral LD50 (rat): 1,000 mg/kg
- Inhalation LC50 (rat): > 22500 ppm / 8 hr
- Dermal LD50 (guinea pig): 10 - 20 ml/kg
- Skin irritation: moderate
- Skin Sensitization: slight
- Eye irritation: slight to moderate

12. Ecological information

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

Potential Toxicity:

Toxicity to fish (LC50):	> 100 mg/l
Toxicity to daphnia (EC50):	> 100 mg/l
Toxicity to algae (IC50):	no data available
Toxicity to other organisms (EC50):	> 100 mg/l (sludge)

Persistence and degradability: Readily biodegradable.

Chemical Oxygen Demand (COD): ca. 143 g/l

Material Safety Data Sheet

Revision Date: 09/17/2007
000000019860/Version: 1.2
Print Date: 02/01/2009
Page: 6/9



Biochemical Oxygen Demand (BOD): ca. 78 g/l

13. Disposal considerations

Discharge, treatment, or disposal may be subject to federal, state, commonwealth, provincial, or local laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

IATA:	UN Number:	UN1992
	Proper shipping name:	Flammable liquid, toxic, n.o.s. (Formaldehyde solution, Methanol)
	Class:	3
	Sub-risks:	6.1
	Packaging group:	III
IMDG:	UN Number:	UN1992
	Proper shipping name:	FLAMMABLE LIQUID, TOXIC, N.O.S. (Formaldehyde solution, Methanol)
	Class:	3
	Sub-risks:	6.1
	Packaging group:	III
US DOT:	UN Number:	UN1992
	Proper shipping name:	Flammable liquids, toxic, n.o.s. (Formaldehyde solution, Methanol)
	Class:	3
	Sub-risks:	6.1
	Packaging group:	III

For more transportation information, go to: www.kodak.com/go/ship.

15. Regulatory information

Notification status

Regulatory List	Notification status
EINECS	n (Negative listing)
TSCA	y (positive listing)
AICS	y (positive listing)
DSL	y (positive listing)
ENCS (JP)	y (positive listing)

Material Safety Data Sheet



Revision Date: 09/17/2007
000000019860/Version: 1.2
Print Date: 02/01/2009
Page: 7/9

KECI (KR) y (positive listing)
PICCS (PH) y (positive listing)
INV (CN) y (positive listing)

A N (Negative listing) indicates one or more component is either not on the public Inventory or is subject to exemption requirements. If additional information is needed contact Kodak.

Other regulations

American Conference of Governmental Industrial Hygienists (ACGIH):	Formaldehyde: Group A2 (Suspected human carcinogen.)
International Agency for Research on Cancer (IARC):	Formaldehyde: 1 (Human carcinogen.)
U.S. National Toxicology Program (NTP):	Formaldehyde (Anticipated carcinogen.)
U.S. Occupational Safety and Health Administration (OSHA):	Formaldehyde (Potential cancer hazard.)
California Prop. 65:	Formaldehyde (Carcinogenic.)
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:	Formaldehyde, Methanol
US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000):	No components are subject to the Massachusetts Right to Know Act.
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323):	Water, Formaldehyde, Sodium alkyl phenoxy ether sulphate, Methanol
US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5):	Water, Formaldehyde, Sodium alkyl phenoxy ether sulphate, Methanol, Octylphenoxypolyethoxyethanol

16. Other information

The data below reflects current legislative requirements whereas the product in your possession may carry a different version of the label depending on the date of manufacture.

US/Canadian Label Statements:

CONTAINS: Formaldehyde (50-00-0), Methanol (67-56-1), Octylphenoxypolyethoxyethanol (9036-19-5), Sodium alkyl phenoxy ether sulphate (9014-90-8)

**DANGER!
COMBUSTIBLE LIQUID AND VAPOR
POISON
CANNOT BE MADE NONPOISONOUS - VAPOR HARMFUL
MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED -
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CAUSES EYE BURNS**

Material Safety Data Sheet

Revision Date: 09/17/2007
000000019860/Version: 1.2
Print Date: 02/01/2009
Page: 8/9



MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS
DUST, MIST OR VAPOUR IRRITATING TO THE EYES AND RESPIRATORY TRACT
CAUSES SKIN IRRITATION
CANCER HAZARD - CAN CAUSE CANCER

Keep away from heat and sources of ignition.
Store in cool place.
Keep container tightly closed.
Do not freeze.
Avoid heat or contamination.
Do not breathe vapours or spray mist.
Do not get in eyes and avoid contact with skin and clothing.
Use only with adequate ventilation.
Wash thoroughly after handling.

FIRST AID: If inhaled, remove to fresh air. Get medical attention. Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes. 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 centre immediately.

Notes to physician: Symptoms of poisoning may not appear for several hours. Keep under medical supervision for at least 48 hours.

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.

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

IN CASE OF FIRE: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to cool unopened containers.

IN CASE OF SPILL: Remove all sources of ignition. Collect in a noncombustible container for prompt disposal. Clean surface thoroughly to remove residual contamination. Flush with plenty of water. For Large Spills: Prevent runoff from entering drains, sewers, or streams.

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

Material Safety Data Sheet

Revision Date: 09/17/2007
000000019860/Version: 1.2
Print Date: 02/01/2009
Page: 9/9

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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-1ZT CARC