

MATERIAL SAFETY DATA SHEET

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

Product name: KODAK FLEXICOLOR SM Processing Unit F2/C-41SM Version 2.1, Fixer

Product code: 1173319 - Fixer

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

Supplier: KODAK AUSTRALASIA Pty. Ltd., 181 Victoria Parade, Collingwood, Victoria, 3066

For Chemical Emergency Information, in Australia call 1800 033111 (24 hour service Australia-wide); in New Zealand call 0800 734 607 (24 hour service); in Asia call +86 21 63500836

For Other Information, call 61 3 8417 8000.

Synonyms: PCD 6546

Product Use: Professional colour film photographic processing solution

2. Hazards identification

STATEMENT OF HAZARDOUS NATURE: Not classified as hazardous according to criteria of NOHSC

Contains no scheduled poisons

3. Composition/information on ingredients

Weight %	Components (CAS-No.)
65 - 70	Water (7732-18-5)
25 - 30	Ammonium thiosulphate (7783-18-8)
1 - 5	Ammonium thiocyanate (1762-95-4)
1 - 5	Ammonium sulphite (10196-04-0)
1 - 5	Sodium sulphite (7757-83-7)
0.1 - 1	Sodium bisulphite (7631-90-5)

4. First aid measures

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

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

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 re-use. Destroy or thoroughly clean contaminated shoes.

Ingestion: 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.

Notes to physician:

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Treatment: WARNING! Contact with a strong oxidizer or acid may liberate hydrogen cyanide gas. In the event that hydrogen cyanide gas is released, the local emergency ambulance/resuscitation service or physician should be informed that the patient may have been exposed to hydrogen cyanide gas.

5. Fire-fighting measures

Hazchem Code: Not specified

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Flush with plenty of water.

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

Hazardous Combustion Products: Carbon oxides, nitrogen oxides (NOx), sulphur oxides, (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: Dried product residue can act as a reducing agent. Reacts violently with oxidizing materials. May cause spontaneous heating and ignition when absorbed on combustible, porous material (e.g. rags, paper, sawdust, cotton, clothing).

6. Accidental release measures

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

7. Handling and storage

Personal precautions: Do not breathe mist or vapour at concentrations greater than the exposure limits. If accidentally mixed with a strong oxidizer or acid, do not breathe gas. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Cleaning Precautions: DO NOT add cleaning agents to processor tanks unless the tank and recirculation lines have been completely drained and thoroughly rinsed with water. The addition of concentrated cleaning agents, e.g. chlorine containing bleaches, to control biological growth or clean tanks may liberate hazardous gases. For information on the recommended methods for cleaning processing tanks, contact the Kodak Customer Assistance Center at (800) 242-2424, extension 60. For information on controlling biological growth, request a copy of the KODAK Publication CIS-3, Biocides for Photographic Solution Tanks and Wash Water.

Prevention of Fire and Explosion: Keep from contact with oxidizing materials, highly oxygenated or halogenated solvents, organic compounds containing reducible functional groups. Remove and wash contaminated clothing promptly.

Storage: Store in original container. Keep away from acids. Keep container tightly closed to prevent the loss of water. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls / personal protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Sulphur dioxide	AU OEL	Time Weighted Average (TWA):	2 ppm

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Sodium bisulphite		Short Term Exposure Limit (STEL):	5 ppm
		Time Weighted Average (TWA):	5 mg/m3
Sulphur dioxide	ACGIH	time weighted average	2 ppm
		Short term exposure limit	5 ppm
Sodium bisulphite		time weighted average	5 mg/m3
Sulphur dioxide	NZ OEL	Time Weighted Average (TWA):	2 ppm
		Short Term Exposure Limit (STEL):	5 ppm

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: None should be needed under normal conditions of use. However in the unlikely event that hazardous decomposition products are released, emergency response personnel must wear a full-face positive-pressure air supplied respirator. See Stability and Reactivity Section. If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. 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).

Skin and body protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to condition of use.

9. Physical and chemical properties

Physical form: liquid

Colour: clear

Odour: ammonia

Specific gravity: 1.18

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

Vapour density: 0.6

Volatile fraction by weight: 65 - 70 %

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

Water solubility: complete

pH: 7.5

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Flash point: does not flash

Flammability Limits: Not specified

10. Stability and reactivity

Stability: Stable under normal conditions.

Incompatibility: Acids, sulfuric acid, strong bases, sodium hypochlorite (bleach), halogenated compounds, oxidizing agents. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas). Contact with strong oxidizing agents e.g. sodium hypochlorite (bleach) or strong acids may liberate cyanides or carbonyl sulphide. Contact with strong oxidizing agents or acids liberates toxic and flammable gas. Contact with strong acids liberates sulphur dioxide. Contact with base liberates flammable material. Contact with base liberates ammonia.

Hazardous decomposition products: ammonia, chloramine, cyanides, carbonyl sulfide, sulphur oxides.

Hazardous Polymerization: Hazardous polymerization does not occur.

11. Toxicological information

Effects of Exposure

General advice:

Contains: Ammonium thiocyanate. Overexposure to thiocyanates has been shown to cause thyroid enlargement, decrease in metabolic rate, and symptoms of hypothyroidism in humans and animals.

Inhalation: May be harmful if inhaled. If hydrogen cyanide gas is liberated due to contact with a strong oxidizer or acid, it may cause dizziness, headache, rapid respiration, rapid pulse, unconsciousness, convulsions and death. In contact with strong acids or if heated, sulphites may liberate sulphur dioxide gas. Sulphur dioxide gas is irritating to the respiratory tract. Some asthmatics or hypersensitive individuals may experience difficult breathing.

Eyes: No specific hazard known. May cause transient irritation.

Skin: May be harmful if absorbed through skin.

Ingestion: May be harmful if swallowed. May cause irritation of the gastrointestinal tract.

Data for Ammonium thiocyanate (CAS 1762-95-4):

Acute Toxicity Data:

- Dermal LD50 (guinea pig): 0.25 - 0.5 g/kg
- Skin irritation: moderate
- Eye irritation: moderate

Data for Ammonium sulphite (CAS 10196-04-0):

Acute Toxicity Data:

- Oral LD50 (rat): 2,528 mg/kg
- Oral LD50: 1,904 mg/kg

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- Inhalation LC50 (rat): > 2.46 mg/l / 6 hr
- Dermal LD50: > 1,000 mg/kg
- Skin irritation: slight

Data for Sodium sulphite (CAS 7757-83-7):

Acute Toxicity Data:

- Oral LD50 (rat): > 1,600 mg/kg
- Skin irritation: none
- Eye irritation: slight; washing palliative

12. Ecological information

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

Potential Toxicity:

Fish LC50: > 100 mg/l

Daphnid EC50: > 100 mg/l

Algal IC50: 100 mg/l

Waste treatment organisms EC50: > 100 mg/l

Organics Readily Degradable: Readily biodegradable

Potential Bioaccumulation: log Pow < 1

COD (approximate): 75 g/l

BOD (approximate): 61 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

Not regulated for all modes of transportation.

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

15. Regulatory information

Poisons Schedule: Not specified

Carcinogenicity Classification (components present at 0.1% or more):

International Agency for Research on Cancer (IARC): Sodium sulphite: 3 (Classification not possible from current data.), Ammonium sulphite: 3 (not classifiable as to carcinogenicity to humans), Sodium bisulphite: 3 (Classification not possible from current data.)

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American Conference of Governmental Industrial Hygienists (ACGIH): Sodium bisulphite: Group A4 (Not classifiable as a human carcinogen.)
U.S. National Toxicology Program (NTP): none
U.S. Occupational Safety and Health Administration (OSHA): none
Worksafe Australia: none

16. Other information

Worksafe Australia Labeling:

Not classified as hazardous according to criteria of NOHSC

National Health and Medical Research Council Standard for the Uniform Scheduling of Drugs and Poisons Labeling:

CONTAINS NO SCHEDULED POISONS

First aid: No first aid instructions are recommended for labelling purposes.

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-1, S-2, F-1, C-1