

Chemical Safety Data Sheet

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

Product name: KODAK X-OMAT EX II Developer, Part A

Product code: 10095088 - Part A

Manufacturer: Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608; Rayco (Shanghai) Medical Products Company Limited; Building 7, No.1510 Chuanqiao Road, Jinqiao Export Processing Zone, Pudong New Area, Shanghai, 201206

For Chemical Emergency Information, call: (800) 820-5800

Synonyms: 6400

Product Use: photographic processing chemical For industrial use only.

2. Composition/information on ingredients

Weight %	Components (CAS-No.)
65 - 70	Water (7732-18-5)
15 - 20	Potassium sulphite (10117-38-1)
10 - 15	Hydroquinone (123-31-9)
1 - 5	Diethylene glycol (111-46-6)
0.1 - 1	4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone (13047-13-7)

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3. Hazards identification

Harmful. Limited evidence of a carcinogenic effect. Risk of serious damage to eyes. May cause sensitization by skin contact. Possible risk of irreversible effects.

4. First aid measures

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

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

Skin: Wash off with soap and water. Get medical attention if symptoms occur.

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.

5. Fire-fighting measures

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

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

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

Unusual Fire and Explosion Hazards: None.

6. Accidental release measures

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 precautions: Avoid breathing mist or vapour at concentrations greater than the exposure limits. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep from contact with oxidizing materials.

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

8. Exposure controls / personal protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Hydroquinone	CN OEL	Time Weighted	1 mg/m ³

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		Average (TWA):	
		Short Term	2 mg/m ³
		Exposure Limit	
		(STEL):	
4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone	EK HPG	Time Weighted	0.2 mg/m ³
Sulphur dioxide	CN OEL	Average (TWA):	
		Time Weighted	5 mg/m ³
		Average (TWA):	
		Short Term	10 mg/m ³
		Exposure Limit	
		(STEL):	
Hydroquinone	ACGIH	time weighted	2 mg/m ³
		average	
Sulphur dioxide		time weighted	2 ppm
		average	
		Short term	5 ppm
		exposure limit	
4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone	EK HPG	Time Weighted	0.2 mg/m ³
		Average (TWA):	

Ventilation: Good general ventilation should be used. Ventilation should be sufficient so that applicable occupational exposure limits are not exceeded. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances.

Respiratory protection: In case of insufficient ventilation, wear personal respiratory protection designed to protect against both aerosols and acid gas.

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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: light yellow

Odour: slight

Specific gravity: 1.24

Vapour pressure: No data available

Vapour density: 0.6

Volatile fraction by weight: 65 - 70 %

Boiling point/range: > 100 °C (> 212.0 °F)

Water solubility: completely soluble

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pH: 11

Flash point: > 93.33 °C (> 200.0 °F) (estimated)

10. Stability and reactivity

Stability: Stable under normal conditions.

Incompatibility: Strong oxidizing agents, Acids. Contact with strong acids liberates sulphur dioxide.

Hazardous decomposition products: sulphur oxides.

Hazardous Polymerization: Hazardous polymerization does not occur.

11. Toxicological information

Effects of Exposure

General advice:

Contains: Diethylene glycol. Can cause kidney damage and CNS effects following ingestion. Repeated oral exposure to high doses can cause liver damage.

Contains: Hydroquinone. Possible risk of irreversible effects. Limited evidence of a carcinogenic effect.

Contains: 4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone. May cause

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adverse reproductive effects such as infertility based on animal data. Based on repeated-dose ingestion studies in animals, this chemical may cause blood, testicular, and adverse reproductive effects.

Inhalation: Expected to be a low hazard for recommended handling.

Eyes: Risk of serious damage to eyes.

Skin: May cause sensitization by skin contact.

Ingestion: Expected to be a low ingestion hazard.

Acute Toxicity Data:

- Oral LD50 (rat): > 2,000 mg/kg

Data for 4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone (CAS 13047-13-7):

Acute Toxicity Data:

- Oral LD50 (rat): 566 mg/kg
- Oral LD50: 283 mg/kg
- Dermal LD50: > 1,000 mg/kg

Data for Potassium sulphite (CAS 10117-38-1):

Acute Toxicity Data:

- Oral LD50: > 3,200 mg/kg
- Dermal LD50: > 20,000 mg/kg
- Skin irritation: slight to moderate

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Data for Diethylene glycol (CAS 111-46-6):

Acute Toxicity Data:

- Oral LD50 (rat): > 3,200 mg/kg
- Dermal LD50: > 10,000 mg/kg
- Skin irritation: slight to moderate
- Eye irritation: slight

Data for Hydroquinone (CAS 123-31-9):

Acute Toxicity Data:

- Oral LD50: 70 - 170 mg/kg (estimated)
- Oral LD50 (rat): 400 mg/kg
- Dermal LD50: > 1,000 mg/kg
- Dermal absorption rate: 1.1 micrograms (s) / cm² / hour
- Skin irritation: slight
- Skin Sensitization: positive
- Eye irritation: moderate

Mutagenicity/Genotoxicity Data:

- Salmonella typhimurium assay (Ames test): negative (in presence and absence of activation)
- Chromosomal aberration assay: negative (in absence of activation)
- Chromosomal aberration assay: positive (in presence of activation)
- Sister chromatid exchange (SCE) assay: positive (in presence and absence of activation)

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Definitions for the following section(s): LOEL =lowest-observed-effect level, LOAEL = lowest-observed-adverse-effect, NOAEL = no observed-adverse-effect level, NOEL =no-observed-effect level.

Repeated dose toxicity:

- Dermal (17-day, rat): NOEL; 3800 mg/kg/day
- Dermal (17-day): LOEL (Lowest observable effect level); 4800 mg/kg/day

Developmental Toxicity Data:

- : NOEL for developmental toxicity; 75mg/kg/day
- : LOEL for maternal toxicity; 75mg/kg/day
- : NOEL for maternal toxicity; 25mg/kg/day
- (rat): NOEL for developmental toxicity; 100mg/kg/day
- (rat): NOEL for developmental toxicity; 100mg/kg/day

12. Ecological information

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

Potential Toxicity:

Fish LC50: < 1 mg/l

Daphnid EC50: < 1 mg/l

Algal IC50: < 10 mg/l

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Waste treatment organisms EC50: > 100 mg/l

Organics Readily Degradable: Readily biodegradable

Potential Bioaccumulation: log Pow < 1

COD (approximate): 373 g/l

BOD (approximate): 188 g/l

13. Disposal considerations

Discharge, treatment, or disposal may be subject to federal, state, commonwealth, provincial, or local laws.

14. Transport information

Not regulated for all modes of transportation.

For more transportation information, go to: <http://ship.carestreamhealth.com>.

15. Regulatory information

Dangerous Chemicals list -2002 published by China National Security to produce Surveillance administrative Bureau: Not listed

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

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

American Conference of Governmental Industrial Hygienists (ACGIH):

Hydroquinone: Group A3 (Confirmed animal carcinogen with unknown relevance to humans.)

U.S. National Toxicology Program (NTP): none

U.S. Occupational Safety and Health Administration (OSHA): none

16. Other information

The data below reflects current legislative requirements whereas the product in your possession may carry a different version. The actual label information will depend upon the intended use of the product.

Labeling:

Warning: WARNING!



Symbol/Indication of Danger:

Xn: Harmful

Risk Phrases:

R40: Limited evidence of a carcinogenic effect.

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R41: Risk of serious damage to eyes.

R43: May cause sensitization by skin contact.

R68: Possible risk of irreversible effects.

Safety Phrases:

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

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