

Chemical Safety Data Sheet

Revision Date: 22.04.2007

Print Date: 11.11.2010

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

Product name: KODAK X-OMAT ICM D-1 Developer Replenisher

Product code: 8344228

Manufacturer: Carestream Health, Inc., 150 Verona Street, 14608, Rochester, New York

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

Synonyms: 6399

Product Use: photographic processing chemical (developer/activator) For industrial use only.

2. Composition/information on ingredients

Weight %	Components (CAS-No.)
60 - 65	Water (7732-18-5)
15 - 20	Potassium sulphite (10117-38-1)
5 - 10	Hydroquinone (123-31-9)
1 - 5	Diethylene glycol (111-46-6)
1 - 5	Sodium sulphite (7757-83-7)

3. Hazards identification

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

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.

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

Ingestion: If swallowed, do NOT induce vomiting. Give victim a glass of water. Never give anything by mouth to an unconscious person. Get medical attention 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.

Hazardous Combustion Products: Carbon 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

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Chemical Name	Regulatory List	Value Type	Value
Hydroquinone	CN OEL	Time Weighted	1 mg/m3
		Average (TWA):	
		Short Term	2 mg/m3
		Exposure Limit (STEL):	
Sulphur dioxide		Time Weighted	5 mg/m3
		Average (TWA):	
		Short Term	10 mg/m3
		Exposure Limit (STEL):	
Hydroquinone	ACGIH	time weighted average	2 mg/m3
Sulphur dioxide		time weighted average	2 ppm
		Short term	5 ppm
		exposure limit	

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 suitable respiratory equipment.

Eye protection: Wear safety glasses with side shields (or goggles).

Skin and body protection: For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

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

9. Physical and chemical properties

Physical form: liquid

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Colour: light yellow

Odour: odourless

Specific gravity: 1.28

Vapour pressure: 24 mbar (18.0 mm Hg)

Vapour density: 0.6

Volatile fraction by weight: 60 - 65 %

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

Water solubility: complete

pH: 11.3

Flash point: does not flash

10. Stability and reactivity

Stability: Stable under normal conditions.

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

Hazardous decomposition products: sulphur oxides.

Hazardous Polymerization: Hazardous polymerization does not occur.

11. Toxicological information

Effects of Exposure

General advice:

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

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

Eyes: Causes eye irritation.

Skin: May cause skin depigmentation.

Ingestion: Harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea. Can cause kidney damage and CNS effects following ingestion.

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

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

Acute Toxicity Data:

- 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)

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.

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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:

- Oral (female rabbit): NOEL for developmental toxicity; 25mg/kg/day

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

12. Ecological information

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

Potential Toxicity:

Fish LC50:	1 - 10 mg/l
Daphnid EC50:	< 1 mg/l
Algal IC50:	10 - 100 mg/l
Waste treatment organisms EC50:	> 100 mg/l
Organics Readily Degradable:	Readily biodegradable
Potential Bioaccumulation:	log Pow < 1
COD (approximate):	333 g/l
BOD (approximate):	173 g/l

13. Disposal considerations

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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: Listed – Hydroquinone

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

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

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Symbol/Indication of Danger: Xn: Harmful

Risk Phrases:

- R36: Irritating to eyes.
- R40: Limited evidence of a carcinogenic effect.
- R68: Possible risk of irreversible effects.
- R43: May cause sensitization by skin contact.

Safety Phrases: S36/37: Wear suitable protective clothing and gloves.

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.
