

**MATERIAL SAFETY DATA SHEET**

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**Version** 4.01

**1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**Product name:** KODAK RP X-OMAT Developer and Replenisher, Part A  
 RP X-OMAT Developer and Replenisher, Part A

**Product code:** 1249259A

**Supplier** Carestream Health Canada, 8800 Dufferin Street, Suite 201, Vaughan, Ontario, L4K 0C5

For Emergency Health Information call: 800-424-9300

For other information contact: 1-866-792-5011

**Synonyms** PCD 6159

**Product Use:** Restricted to professional users. Photographic chemical.

**2. HAZARDS IDENTIFICATION**

**Warning!**

**Emergency Overview**

Harmful if swallowed  
 Causes eye irritation  
 May cause central nervous system depression  
 May cause adverse kidney effects

**Physical state** liquid

**Odor** Odorless

**Color** light yellow

**HMIS**

**Health Hazard** - 2\*

**Flammability** - 1

**Physical - 0  
 Hazard**

**Potential Health Effects**

**Eyes**

Irritating to eyes. Risk of serious damage to eyes.

**Skin**

Repeated exposure may cause skin dryness or cracking. Non-irritating during normal use.

**Inhalation**

No hazard from product as supplied. May cause irritation of respiratory tract. Contact with strong acids liberates sulfur dioxide.

**Ingestion**

Harmful if swallowed. May cause adverse kidney effects. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

**Chronic Effects**

**Chronic toxicity**

Effects expected to be similar to those seen acutely.

**Aggravated Medical Conditions**

Central nervous system. Preexisting eye disorders. Skin disorders. Respiratory disorders. Use of alcoholic beverages may enhance toxic effects.

**Environmental hazard**

See Section 12 for additional Ecological Information.

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Hazardous

Chemical Name	CAS-No	Weight %
Potassium sulfite	10117-38-1	20 - 25
Hydroquinone	123-31-9	5 - 10
Diethylene glycol	111-46-6	1 - 5
Sodium carbonate	497-19-8	1 - 5
Sodium sulfite	7757-83-7	1-5
Sodium borate	1330-43-4	0.1-1

Non-Hazardous

Chemical Name	CAS-No	Weight %
Water	7732-18-5	60-70

#### 4. FIRST AID MEASURES

<b>General advice</b>	Show this material safety data sheet to the doctor in attendance.
<b>Eye contact</b>	In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
<b>Skin contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Inhalation</b>	Move to fresh air. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
<b>Notes to physician</b>	Treat symptomatically.

#### 5. FIRE-FIGHTING MEASURES

<b>Flash point:</b>	> 93.3 °C / > 200 °F
<b>Method</b>	Seta closed cup
<b>Suitable Extinguishing Media</b>	Water spray. Carbon dioxide (CO <sub>2</sub> ). Alcohol-resistant foam. Dry chemical.
<b>Unsuitable Extinguishing Media</b>	Do not use a solid water stream as it may scatter and spread fire.
<b>Hazardous Combustion Products</b>	Hazardous decomposition products due to incomplete combustion.

#### Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

Health Hazard - 2

Flammability - 1

Stability - 0

#### 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	For personal protection see section 8. Ensure adequate ventilation.
<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.
<b>Other information</b>	See Section 12 for additional information.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling.
<b>Technical measures/Storage conditions</b>	Keep at temperatures between 5°C and 30°C. Keep container tightly closed in a dry and well-ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Hydroquinone 123-31-9	TWA: 1 mg/m <sup>3</sup>		TWA: 2 mg/m <sup>3</sup>	
Diethylene glycol 111-46-6		TWA: 10 mg/m <sup>3</sup>		
Sodium borate 1330-43-4	STEL 6 mg/m <sup>3</sup> TWA: 2 mg/m <sup>3</sup>			

### Occupational Exposure Controls

<b>Engineering Measures</b>	Ensure adequate ventilation. Apply technical measures to comply with the occupational exposure limits.
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### Personal Protective Equipment

<b>General Information</b>	These recommendations apply to the product as supplied.
<b>Respiratory protection</b>	Use only with adequate ventilation. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.
<b>Eye/Face Protection</b>	Safety glasses with side-shields. If splashes are likely to occur, wear:: Goggles.
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Hand Protection</b>	Impervious gloves.
<b>Other Protective Equipment</b>	Ensure that eyewash stations and safety showers are close to the workstation location.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b> liquid	<b>Odor</b> Odorless
<b>ph</b> 11.4	<b>Color</b> light yellow
<b>Flash point:</b> > 93.3 °C / > 200 °F Seta closed cup	<b>Autoignition temperature:</b> No information available
<b>Boiling point/boiling range</b> > 100 °C	

Vapor Pressure 24 mbar @ 20 °C  
Vapor density 0.6  
Density No information available  
Water Solubility completely soluble  
Melting point/range: No information available  
Specific Gravity 1.31  
Bulk Density: No information available

## 10. STABILITY AND REACTIVITY

**Stability** Stable under normal conditions.

**Incompatible products** Oxidizing agents. Strong acids.

**Conditions to Avoid** Heat, flames and sparks.

**Hazardous Decomposition Products** Carbon oxides, Sulfur oxides.

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** Contact with strong acids liberates sulfur dioxide.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity - Product Information

**Skin** Repeated exposure may cause skin dryness or cracking. Non-irritating during normal use.

**Eyes** Irritating to eyes. Risk of serious damage to eyes.

**Inhalation** No hazard from product as supplied. May cause irritation of respiratory tract. Contact with strong acids liberates sulfur dioxide.

**Ingestion** Harmful if swallowed. May cause adverse kidney effects. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

### Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	90,000 mg/kg ( Rat )		
Hydroquinone	320 mg/kg ( Rat )	> 4800 mg/kg (Rat)	
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	
Sodium carbonate	4090 mg/kg ( Rat )		
Sodium sulfite	820 mg/kg ( Rat )		5.5 mg/L ( Rat ) 4 h 22 mg/L ( Rat ) 1 h
Sodium borate	2403 mg/kg ( Rat )	2000 mg/kg ( Rabbit )	
<b>Chemical Name</b>	<b>Other applicable information</b>		

Potassium sulfite	Mild skin irritation - Moderate skin irritation
Hydroquinone	Moderate eye irritation  Causes sensitization on guinea-pigs  Mild skin irritation  Can be absorbed through skin (1.1 ug/cm2/hr)  Negative in bacterial mutagenicity assays. Evidence for mutagenicity (chromosome breakage, sister-chromatid exchanges) in in vivo and in vitro animal studies Hydroquinone has been classified as a Category 3 mutagen and carcinogen by the European Union based on testing of rats and mice given hydroquinone by stomach tube or at high dietary levels. The International Agency for Research on Cancer (IARC) under ranking for cancer potential has classified hydroquinone in Group 3, i.e. "not classifiable" as a carcinogen. In the European Union a Category 3 mutagen attracts the risk phrase R68 "Possible risk of irreversible effects" at concentrations above 1%, and a Category 3 carcinogen attracts the risk phrase R40 "Limited evidence of a carcinogenic effect" at concentrations above 1%. Exposure to products containing such substances should be controlled to below established control limits and special care should be taken with pregnant or breast-feeding women to ensure appropriate controls are in place to control the risk.
Diethylene glycol	Mild skin irritation - Moderate skin irritation  Mild eye irritation  Can cause kidney damage and CNS effects following ingestion. Repeated oral exposure to high doses can cause liver damage.
Sodium carbonate	Mild skin irritation
Sodium sulfite	No skin irritation  Mild eye irritation
Sodium borate	Based on repeated-dose ingestion studies in animals, may cause adverse reproductive and developmental effects. However, the doses administered were many times those to which humans would normally be exposed.

**Subchronic toxicity** No information available

**Chronic toxicity** Effects expected to be similar to those seen acutely.

**Carcinogenicity** Contains a known or suspected carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydroquinone	A3			

**ACGIH: (American Conference of Governmental Industrial Hygienists)**  
 A3 - Animal Carcinogen

<b>Sensitization</b>	This mixture contains hydroquinone which is classified as a dermal sensitizer in some jurisdictions. A very similar mixture was negative in dermal sensitization studies with and without prior sensitization to hydroquinone. Based on the results of these studies, this mixture is not expected to present a dermal sensitization hazard to humans.
<b>mutagenic effects</b>	No specific testing was done on this product. Mutagenic testing of the hazardous ingredient in this product has resulted in some positive mutagenic results.
<b>Reproductive toxicity</b>	Contains ingredients that are suspected reproductive hazards. However, based on available data the product should not be classified for reproductive effects.
<b>Target Organ Effects</b>	Skin, Eyes, Respiratory system, Central nervous system, Kidney, Liver.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity effects** Very toxic to aquatic organisms.

#### Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Potassium sulfite		LC50 220 - 460 mg/L <i>Leuciscus idus</i> 96 h	
Hydroquinone	13.5 mg/L EC50 120 h ( <i>Desmodesmus subspicatus</i> ) 0.335 mg/L EC50 72 h ( <i>Pseudokirchneriella subcapitata</i> )	LC50= 0.044 mg/L <i>Oncorhynchus mykiss</i> 96 h LC50= 0.044 mg/L <i>Pimephales promelas</i> 96 h LC50 0.1 - 0.18 mg/L <i>Pimephales promelas</i> 96 h LC50= 0.17 mg/L <i>Brachydanio rerio</i> 96 h	EC50 = 0.29 mg/L 48 h ( <i>Daphnia magna</i> )
Diethylene glycol		LC50= 75200 mg/L <i>Pimephales promelas</i> 96 h	EC50 = 84000 mg/L 48 h ( <i>Daphnia magna</i> )
Sodium carbonate	242 mg/L EC50 120 h ( <i>Nitzschia</i> )	LC50= 300 mg/L <i>Lepomis macrochirus</i> 96 h LC50 310 - 1220 mg/L <i>Pimephales promelas</i> 96 h	EC50 = 265 mg/L 48 h ( <i>Daphnia magna</i> )
Sodium sulfite		LC50 220 - 460 mg/L <i>Leuciscus idus</i> 96 h	LC50 = 330 mg/L 24 h ( <i>Psammechinus miliaris</i> )
Sodium borate	158 mg/L EC50 96 h ( <i>Desmodesmus subspicatus</i> ) 2.6 - 21.8 mg/L EC50 96 h ( <i>Pseudokirchneriella subcapitata</i> )	LC50= 340 mg/L <i>Limanda limanda</i> 96 h	LC50 1085 - 1402 mg/L 48 h ( <i>Daphnia magna</i> )

**Persistence and degradability** No data is available on the product itself. Expected to be readily biodegradable.

**Bioaccumulation:** - No information available

**Mobility** - No information available

Chemical Name	log Pow
Hydroquinone	0.5
Diethylene glycol	-1.98
Sodium sulfite	-4

**Other adverse effects**  
 No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** Dispose of in accordance with local regulations.

**Contaminated packaging** Do not re-use empty containers. Dispose of in accordance with local regulations.

## 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.

**DOT** Not regulated

**TDG** Not regulated

**ICAO/IATA** Not regulated

**IMDG/IMO** Not regulated

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

## 15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

### WHMIS Hazard Class

D2A Very toxic materials

D2B Toxic materials



### International Inventories

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	Complies

### Legend

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

## 16. OTHER INFORMATION

### Disclaimer for Label

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.



### Warning!

- Contains:

#### Hazardous Components

Chemical Name	CAS-No	Weight %
Potassium sulfite	10117-38-1	20 - 25
Hydroquinone	123-31-9	5 - 10
Diethylene glycol	111-46-6	1 - 5
Sodium carbonate	497-19-8	1 - 5
Sodium sulfite	7757-83-7	1-5
Sodium borate	1330-43-4	0.1-1

Harmful if swallowed. Causes eye irritation. May cause central nervous system depression. May cause adverse kidney effects.

Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling.

Additional information is given in the Material Safety Data Sheet.

#### Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.