# Material Safety Data Sheet



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

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

**Product code:** 1249259, Part A

**Supplier:** Carestream Health Canada Company, 6 Monogram Place, Suite 200, Toronto, Ontario, M9R 0A1

MSDS Prepared by: Health, Safety and Environment, Carestream Health, Inc., Rochester, New York, 14608.

For Emergency Health Information call: 1-800-424-9300.

For Other Information, call the Marketing and Distribution Center in Your Area.

**Synonyms:** PCD 6159

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

## 2. Hazards identification

**CONTAINS:** Hydroquinone (123-31-9), Diethylene glycol (111-46-6), Potassium sulphite (10117-38-1), Sodium sulphite (7757-83-7)

**WARNING!**
**HARMFUL IF SWALLOWED**
**CAUSES EYE IRRITATION**
**CAN CAUSE KIDNEY DAMAGE AND CNS EFFECTS FOLLOWING INGESTION**

**NFPA Hazard Ratings:** Health - 2, Flammability - 1, Instability - 0

NOTE: HMIS III and NFPA hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. An asterisk (*), in the HMIS III health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

## 3. Composition/information on ingredients

| Weight percent | Components (CAS-No.) |
|---|---|
| 20 - 25 | 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) |
| 1 - 5 | Sodium carbonate (497-19-8) |

## 4. First aid measures

**Inhalation:** If inhaled, remove 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. If easy to do, remove contact lens, if worn. Get medical attention.

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

**Ingestion:** If swallowed, DO NOT induce vomiting. Call a physician or poison control centre immediately. Never give anything by mouth to an unconscious person.

## 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, Sulphur oxides, (see also Hazardous Decomposition Products section).

**Unusual Fire and Explosion Hazards:** None.

## 6. Accidental release measures

**Methods for cleaning up:** 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 | ACGIH | time weighted average | 1 mg/m3 |
| | OSHA Z1 | Permissible exposure limit | 2 mg/m3 |
| Sulphur dioxide | ACGIH | time weighted average | 2 ppm |
| | ACGIH | Short term exposure limit | 5 ppm |
| | OSHA Z1 | Permissible exposure limit | 5 ppm 13 mg/m3 |

**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:** None should be needed. If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. A respirator should be worn if hazardous decomposition products are likely to be or have been released. Respirator type: Acid gas. 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:** 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

**Colour:** clear light yellow

**Odour:** odourless

**Specific gravity:** 1.305

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

**Vapour density:** 0.6

**Volatile fraction by weight:** 60 - 65 %

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

**Water solubility:** complete

**pH:** 11.4

**Flash point:** > 93.3 °C (> 200.0 °F) (estimated)

## 10. Stability and reactivity

**Stability:** Stable under normal conditions.

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

**Hazardous decomposition products:** Sulphur oxides.

**Hazardous Polymerization:** Hazardous polymerisation does not occur.

## 11. Toxicological information

### Effects of Exposure

**General advice:** 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.

Contains: Hydroquinone. There is insufficient evidence for classifying hydroquinone as a suspected carcinogenic or mutagenic substance in humans. No increases in cancer rates were observed in an epidemiology study which looked at mortality among more than 800 persons employed primarily in the manufacture of hydroquinone. Carcinogenicity studies in animals were inconclusive. Rats and mice were given hydroquinone by stomach tube or at high concentrations in the diet. Responses were not consistent across route of exposure, species or sex. The International Agency for Research on Cancer (IARC) has classified hydroquinone in Group 3, i.e., "not classifiable" as a carcinogen. Hydroquinone is generally negative in bacterial mutagenicity tests; there is evidence for the clastogenicity (chromosome breakage) of hydroquinone in vivo and in vitro. The relevance of chromosomal effects in test animals in predicting human risk is unclear.

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

**Inhalation:** Expected to be a low hazard for recommended handling. Some asthmatics or hypersensitive individuals may experience difficulty breathing if exposed to aerosols or decomposition products that are not anticipated during normal use.

**Eyes:** Causes eye irritation.

**Skin:** Expected to be a low hazard for recommended handling.

**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 PCD 6400 (a very similar material):

### Acute Toxicity Data:
Oral LD50 (rat): > 2,000 mg/kg

- Skin irritation: none
- Skin Sensitization: negative

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

### Acute Toxicity Data:
Oral LD50 (male rat): 400 mg/kg

- Dermal LD50 (guinea pig): > 1,000 mg/kg
- Skin irritation: slight
- Skin Sensitization (guinea pig): 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)
- Mouse micronucleus assay: positive
- Sister chromatid exchange (SCE) assay: positive (in presence and absence of activation)
- Chromosomal aberration assay: negative (in absence of activation)
- Mouse lymphoma 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.

### Repeated dose toxicity:

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

### Developmental Toxicity Data:

- Oral (female rabbit): NOEL for developmental toxicity; 25mg/kg/day
- Oral (females rabbit): NOEL for maternal toxicity; 25mg/kg/day
- Oral (female rat): NOAEL for developmental toxicity; 300mg/kg/day

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

### Acute Toxicity Data:

Oral LD50 (rat): > 3,200 mg/kg

- Dermal LD50 (guinea pig): > 20,000 mg/kg
- Skin irritation: slight to moderate

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

### Acute Toxicity Data:

Oral LD50 (rat): > 3,200 mg/kg

- Dermal LD50 (guinea pig): > 10,000 mg/kg
- Skin irritation: slight to moderate
- Eye irritation: slight

## Data for Sodium carbonate (CAS 497-19-8):

### Acute Toxicity Data:

Oral LD50 (rat): 5,000 mg/kg

- Inhalation LC50 (mouse): 2,300 mg/l /

- Dermal LD50 (rat): > 2,000 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:**

| | |
|---|---|
| Toxicity to algae (IC50): | 1 - 10 mg/l |
| **Persistence and degradability:** | Readily biodegradable. |
| **Chemical Oxygen Demand (COD):** | 330 g/l |
| **Biochemical Oxygen Demand (BOD):** | 114 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. Not dangerous goods

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

## 15. Regulatory information

**Notification status**

| Regulatory List | Notification status |
|---|---|
| TSCA | y (positive listing) |
| DSL | y (positive listing) |
| AICS | y (positive listing) |
| ENCS (JP) | y (positive listing) |
| ISHL (JP) | n (Negative listing) |
| KECI (KR) | y (positive listing) |

| | |
|---|---|
| PICCS (PH) | y (positive listing) |
| INV (CN) | y (positive listing) |
| NZIOC | |

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 Carestream Health.

**WHMIS (Canada):** D2B

**WHMIS Symbol(s):**

**Other regulations**

| | |
|---|---|
| American Conference of Governmental Industrial Hygienists (ACGIH): | Hydroquinone: Group A3 (Confirmed animal carcinogen with unknown relevance to humans.) |
| International Agency for Research on Cancer (IARC): | No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| U.S. National Toxicology Program (NTP): | No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. |
| U.S. Occupational Safety and Health Administration (OSHA): | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. |
| California Prop. 65: | This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects. |
| 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: | Hydroquinone |
| 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. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323): | Water, Potassium sulphite, Hydroquinone, Diethylene glycol |
| US. New Jersey Worker and Community Right-to-Know Act (New | Water, Potassium sulphite, Hydroquinone, |

| | |
|---|---|
| Jersey Statute Annotated Section 34:5A-5): | Diethylene glycol, Sodium carbonate |
| 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. |

## 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: Hydroquinone (123-31-9), Diethylene glycol (111-46-6), Potassium sulphite (10117-38-1), Sodium sulphite (7757-83-7)**

**WARNING!**
**HARMFUL IF SWALLOWED**
**CAUSES EYE IRRITATION**
**CAN CAUSE KIDNEY DAMAGE AND CNS EFFECTS FOLLOWING INGESTION**

Avoid prolonged or repeated breathing of mist or vapour.
Avoid contact with eyes, skin, and clothing.
Use only with adequate ventilation.
Wash thoroughly after handling.

**FIRST AID:** If inhaled, remove to fresh air. Get medical attention if symptoms occur. In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes. 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 centre immediately.

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.

**IN CASE OF SPILL:** Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

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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.