Carestream

**SAFETY DATA SHEET**

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

### Identification of the substance or mixture

**Product name:** KODAK X-OMAT ICM D-1 Developer Replenisher, Part A
RP X-OMAT ICM D-1 Developer and Replenisher, Part A

**Product code:** 6610174A
**Pure substance/mixture** Mixture
**Synonyms** PCD 6159

### Use of the Substance/Mixture

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

### Company/Undertaking Identification

**Supplier** Carestream Health Japan Co., Ltd., 2-27-1 Shinkawa, Chuo-ku, Tokyo, Japan

**For further information, please contact:**
For environment, health and safety information, email: WW-EHS@carestreamhealth.com

### Emergency telephone

**Emergency telephone** +(81)-345209637

## 2. HAZARDS IDENTIFICATION

### Classification of the substance or mixture

| | |
|---|---|
| Serious eye damage/eye irritation | Category 1 |
| Skin sensitization | Category 1 |
| Germ Cell Mutagenicity | Category 2 |
| Carcinogenicity | Category 2 |
| Acute aquatic toxicity | Category 1 |

### GHS Label elements, including precautionary statements

**DANGER**

**Hazard statements**
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H400 - Very toxic to aquatic life

**Precautionary Statements**
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
P272 - Contaminated work clothing should not be allowed out of the workplace
P273 - Avoid release to the environment
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P308 + P313 - IF exposed or concerned: Get medical advice/ attention
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/ physician
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention
P363 - Wash contaminated clothing before reuse
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

**Other hazards which do not result in classification**

**General Hazards**
Contact with strong acids liberates sulfur dioxide.
May cause irritation of respiratory tract
May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination
May cause adverse liver effects
May cause adverse kidney effects

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Chemical Name | Weight % |
|---|---|
| Water | 60-70 |
| Potassium sulfite | 20 - 25 |
| Hydroquinone | 5 - 10 |
| Diethylene glycol | 1 - 5 |
| Sodium carbonate | 1 - 5 |
| Sodium sulfite | 1-5 |

## 4. FIRST AID MEASURES

### Description of necessary first-aid measures

**General advice** — Show this material safety data sheet to the doctor in attendance.

**Main Symptoms** — Irritation
May cause an allergic skin reaction

**Eye contact** — Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.

| | |
|---|---|
| **Skin contact** | Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Get medical attention immediately if symptoms occur. |
| **Inhalation** | Move to fresh air. Get medical attention immediately if symptoms occur. |
| **Ingestion** | Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention. |

### Most important symptoms/effects, acute and delayed

| | |
|---|---|
| **Skin contact** | May cause sensitization by skin contact. May cause skin irritation and/or dermatitis. Prolonged or repeated contact may dry skin and cause irritation. |
| **Eye contact** | Expected to be an irritant based on components. 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. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea. |
| **Ingestion** | May be 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. |

### Indication of immediate medical attention and special treatment needed, if necessary

| | |
|---|---|
| **Notes to physician** | Treat symptomatically. |

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

| | |
|---|---|
| **Suitable Extinguishing Media** | Water spray. Carbon dioxide ($CO_2$). Alcohol-resistant foam. Dry chemical. |
| **Extinguishing media which shall not be used for safety reasons** | None. |

### Specific hazards arising from the chemical

| | |
|---|---|
| **Special Hazard** | Thermal decomposition can lead to release of toxic and corrosive gases/vapors. |

### Special protective actions for fire-fighters

| | |
|---|---|
| **Special protective equipment for fire-fighters** | Wear self-contained breathing apparatus and protective suit. |

### Other information

| | |
|---|---|
| **Other information** | None known. |

## 6. ACCIDENTAL RELEASE MEASURES

## Personal precautions, protective equipment and emergency procedures

For personal protection see section 8. Ensure adequate ventilation.

**Advice for emergency responders**
For personal protection see section 8

## Environmental precautions

Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Prevent entry into waterways, sewers, basements or confined areas.

## Methods and materials for containment and cleaning up

Prevent further leakage or spillage if safe to do so.
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly.

## Other information

See Section 12 for additional Ecological information.

# 7. HANDLING AND STORAGE

## Precautions for safe handling

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

**Prevention of fire and explosion** — Keep from contact with oxidizing materials.

## Conditions for safe storage, including any incompatibilities

**Technical measures/Storage conditions** — Keep at temperatures between 5°C and 30°C. Keep container tightly closed in a dry and well-ventilated place.

**Materials to Avoid** — Strong oxidizing agents. Acids.

# 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Control parameters

**Exposure limits** — Ingredients with workplace control parameters

| Chemical Name | Japan | European Union | ACGIH TLV |
|---|---|---|---|
| Hydroquinone | 2S+ | | TWA: 1 mg/m³ |

## Appropriate engineering controls

**Engineering Measures** — Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

### Individual protection measures, such as personal protective equipment (PPE)

**Personal Protective Equipment**

| | |
|---|---|
| **General Information** | These recommendations apply to the product as supplied. |
| **Respiratory protection** | None under normal use conditions. In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit. Wear a positive-pressure supplied-air respirator with full facepiece. |
| **Eye Protection** | Safety glasses with side-shields. If splashes are likely to occur, wear:. Tightly fitting safety goggles. |
| **Skin and body protection** | Wear suitable protective clothing. |
| **Hand Protection** | Impervious gloves |

**Hygiene measures** When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Keep away from food, drink and animal feeding stuffs. Remove and wash contaminated clothing before re-use.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state** liquid
**ph** 11.4
**Flash point:** > 93.3 °C Seta closed cup
**Boiling point/boiling range** > 100 °C

**Odor** Odorless
**Color** light yellow
**Autoignition temperature:** No information available

**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

### Reactivity

No dangerous reaction known under conditions of normal use.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

Contact with strong acids liberates sulfur dioxide.

### Conditions to Avoid

Heat, flames and sparks.

### Materials to Avoid

Strong oxidizing agents. Acids.

### Hazardous Decomposition Products

Carbon oxides, Sulfur oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity - Product Information

**Skin contact** May cause sensitization by skin contact. May cause skin irritation and/or dermatitis. Prolonged or repeated contact may dry skin and cause irritation.

**Eye contact** Expected to be an irritant based on components. 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. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

**Ingestion** May be 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** 20.54% of the mixture consists of ingredient(s) of unknown toxicity

**Oral** 2,601.00 mg/kg

**Dermal** 46,705.00 mg/kg

**Inhalation**

**Gas** No information available

**Mist** 47.20 mg/L

**Vapor** No information available

**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 ) | | 2300 mg/m$^3$ ( Rat ) 2 h |
| Sodium sulfite | 820 mg/kg ( Rat ) | | 22 mg/L ( Rat ) 1 h 5.5 mg/L ( Rat ) 4 h |

| Chemical Name | Other applicable information |
|---|---|
| Potassium sulfite | 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 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. |

**Aggravated Medical Conditions** Central nervous system, Preexisting eye disorders, Skin disorders, Respiratory disorders, Use of alcoholic beverages may enhance toxic effects.

### Subchronic toxicity

### Chronic toxicity

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

**Sensitization** 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.

**Neurological effects** No information available.

**Target Organ Effects** Skin, Eyes, Respiratory system, Central nervous system, Kidney, Liver.

### CMR Effects

**Carcinogenicity** Contains a known or suspected carcinogen.
- EU Carc.Cat.3.

**mutagenic effects** Contains a known or suspected mutagen. In vitro tests showed mutagenic effects. In vivo tests showed mutagenic effects.

| Chemical Name | European Union | Japan |
|---|---|---|
| Hydroquinone<br>123-31-9 | | X |

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

Very toxic to aquatic organisms

**Acute aquatic toxicity Product Information**
No information available

**Acute aquatic toxicity Component Information**

| Chemical Name | Toxicity to algae | Toxicity to fish | Toxicity to daphnia and other aquatic invertebrates |
|---|---|---|---|
| Potassium sulfite | | LC50 220 - 460 mg/L Leuciscus idus 96 h | |
| Hydroquinone | 13.5 mg/L EC50 120 h (Desmodesmus subspicatus) 0.335 mg/L EC50 72 h (Pseudokirchneriella subcapitata) | LC50 0.1 - 0.18 mg/L Pimephales promelas 96 h LC50= 0.044 mg/L Pimephales promelas 96 h LC50= 0.17 mg/L Brachydanio rerio 96 h LC50= 0.044 mg/L Oncorhynchus mykiss 96 h | EC50 = 0.29 mg/L 48 h (Daphnia magna) |
| Diethylene glycol | | LC50= 75200 mg/L Pimephales promelas 96 h | EC50 = 84000 mg/L 48 h (Daphnia magna) |
| Sodium carbonate | 242 mg/L EC50 120 h (Nitzschia) | LC50 310 - 1220 mg/L Pimephales promelas 96 h LC50= 300 mg/L Lepomis macrochirus 96 h | EC50 = 265 mg/L 48 h (Daphnia magna) |

| | | | |
|---|---|---|---|
| Sodium sulfite | | LC50 220 - 460 mg/L Leuciscus idus 96 h | LC50 = 330 mg/L 24 h (Psammechinus miliaris) |

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

**Bioaccumulative potential**
No information available

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

**Mobility in soil**
No information available

**Other adverse effects** No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste from Residues / Unused Products** Should not be released into the environment. 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.

### ADR/RID

| | |
|---|---|
| **UN/ID No** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Technical Name** | Hydroquinone |
| **Hazard class** | 9 |
| **Packing Group** | III |
| **Classification Code** | M6 |
| **ADR/RID-Labels** | 9 |
| **Special Provisions** | 274, 335, 601 |
| **ADR Hazard Id (Kemmler Number)** | 90 |
| **Limited Quantity** | 5L |

### IMDG/IMO

| | |
|---|---|
| **UN/ID No** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Technical Name** | Hydroquinone |
| **Hazard class** | 9 |
| **Packing Group** | III |
| **Marine Pollutant** | P |
| **EmS No.** | F-A, S-F |
| **Special Provisions** | 179, 274, 335, 909 |
| **Limited quantity DFDA** | 5 L |

### ICAO/IATA

| | |
|---|---|
| **UN/ID No** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Technical Name** | Hydroquinone |
| **Hazard class** | 9 |
| **Packing Group** | III |
| **ERG Code** | 9L |
| **Special Provisions** | A97, A158 |
| **Limited quantity DFDA** | 30 kg G |

### ADN

| | |
|---|---|
| **UN/ID No** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |
| **Technical Name** | Hydroquinone |
| **Hazard class** | 9 |
| **Packing Group** | III |
| **Classification Code** | M6 |
| **Special Provisions** | 274, 335, 601 |
| **Limited quantity DFDA** | LQ7 |

### TDG

| | |
|---|---|
| **UN/ID No** | UN3082 |
| **Proper Shipping Name** | Environmentally hazardous substance, liquid, n.o.s. |

| | |
|---|---|
| **Technical Name** | Hydroquinone |
| **Hazard class** | 9 |
| **Packing Group** | III |

This shipping size falls into limited quantity exemptions that do not require labeling or placarding except if transported by aircraft.

## 15. REGULATORY INFORMATION

### International Inventories

| | |
|---|---|
| **EINECS/ELINCS** | Complies |
| **TSCA** | Complies |
| **DSL/NDSL** | Complies |
| **ENCS** | Complies |
| **IECSC** | Complies |
| **KECL** | Complies |
| **PICCS** | Complies |
| **AICS** | Complies |
| **NZIoC** | 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

### National regulatory information

| Chemical Name | Law on the Evaluation of Chemical Substances and Regulation of their Manufacture, etc. | Pollution Release and Transfer Registry (Class I): | Pollution Release and Transfer Registry (Class II): |
|---|---|---|---|
| Hydroquinone | | 336 | not applicable |

**Industrial Safety and Health Law:**

| Chemical Name | Dangerous Substances | organic solvent | Harmful Substances Whose Names Are to be Indicated on the Label | Biological monitoring |
|---|---|---|---|---|
| Hydroquinone | >0.1 % | not applicable | not applicable | |

**Fire Service Law:**

| Chemical Name | Restrictions on use | Threshold limits |
|---|---|---|
| Diethylene glycol - 111-46-6 | 4 | |

## 16. OTHER INFORMATION

| | |
|---|---|
| Revision Date | 2013-11-01 |
| Revision Note | (M)SDS sections updated |

**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.**

**End of Material Safety Data Sheet**