

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

#### Identification of the substance or mixture

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

**Product code:** 6610000B

**Pure substance/mixture** Mixture

#### Use of the Substance/Mixture

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

#### Company/Undertaking Identification

Carestream Health Korea Ltd  
4F Shinyoung B/D 46-10, Jamwon-dong, Seocho-gu, Seoul 137-906, Korea  
T: +82-2-3438-7300

#### For further information, please contact:

For environment, health and safety information, email: [WW-EHS@carestreamhealth.com](mailto:WW-EHS@carestreamhealth.com)

#### Emergency telephone

Emergency Transportation/CHEMTREC (24 HOUR) 00-308-13-2549

### 2. HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 2
Specific target organ systemic toxicity (single exposure)	Category 3
Chronic aquatic toxicity	Category 3
Corrosive to Metals	Category 1

#### GHS Label elements, including precautionary statements



## DANGER

### **Hazard statements**

H302 - Harmful if swallowed  
H312 - Harmful in contact with skin  
H314 - Causes severe skin burns and eye damage  
H335 - May cause respiratory irritation  
H361 - Suspected of damaging fertility or the unborn child  
H412 - Harmful to aquatic life with long lasting effects  
H290 - May be corrosive to metals

### **Precautionary Statements**

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P234 - Keep only in original container  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting  
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower  
P363 - Wash contaminated clothing before reuse  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing  
P310 - Immediately call a POISON CENTER or doctor/ physician  
P390 - Absorb spillage to prevent material damage  
P404 - Store in a closed container  
P405 - Store locked up  
P406 - Store in corrosive resistant container with a resistant inliner  
P501 - Dispose of contents/ container to an approved waste disposal plant

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

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %
Acetic acid	60-70
Water	20 - 25
3-Pyrazolidinone, 1-phenyl-	10-15

## 4. FIRST AID MEASURES

### Description of necessary first-aid measures

**General advice** Immediate medical attention is required. Show this material safety data sheet to the doctor in attendance.

**Eye contact** Immediate medical attention is required. Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. If easy to do, remove contact lens, if worn.

**Skin contact** Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

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<b>Inhalation</b>	Immediate medical attention is required. Move to fresh air. Artificial respiration and/or oxygen may be necessary.
<b>Ingestion</b>	Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Rinse mouth.
<b>Protection of First-aiders</b>	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Most important symptoms/effects, acute and delayed

<b>Skin contact</b>	Causes burns.
<b>Eye contact</b>	Causes burns. Corrosive to the eyes and may cause severe damage including blindness.
<b>Inhalation</b>	May be harmful if inhaled. Irritating to mucous membranes. Irritating to respiratory system.
<b>Ingestion</b>	Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts.

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

<b>Notes to physician</b>	Probable mucosal damage may contraindicate the use of gastric lavage. Treat symptomatically.
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**5. FIRE-FIGHTING MEASURES**

Suitable Extinguishing Media

<b>Suitable Extinguishing Media</b>	The product is not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Extinguishing media which shall not be used for safety reasons</b>	None.

Specific hazards arising from the chemical

<b>Special Hazard</b>	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
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Special protective actions for fire-fighters

<b>Special protective equipment for fire-fighters</b>	Wear self-contained breathing apparatus and protective suit.
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Other information

<b>Other information</b>	None known.
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**6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment. Do not touch or walk through spilled material. Ensure adequate ventilation. Avoid breathing vapors or mists. Avoid contact with skin, eyes and clothing.

### **Advice for emergency responders**

For personal protection see section 8

### **Environmental precautions**

Do not flush into surface water or sanitary sewer system. Try to prevent the material from entering drains or water courses. Do not allow material to contaminate ground water system.

### **Methods and materials for containment and cleaning up**

Prevent further leakage or spillage if safe to do so.  
Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly.

### **Other information**

Refer to protective measures listed in Sections 7 and 8.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

#### **Advice on safe handling**

Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. When using, do not eat, drink or smoke. Wash thoroughly after handling. Keep container tightly closed.

### **Conditions for safe storage, including any incompatibilities**

#### **Technical measures/Storage conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at temperatures between 5°C and 30°C.

#### **Materials to Avoid**

Strong oxidizing agents. Bases. Amines. Metals.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters**

#### **Exposure limits**

<b>Chemical Name</b>	<b>Korea</b>
Acetic acid	STEL 15 ppm STEL 37 mg/m <sup>3</sup> TWA 10 ppm TWA 25 mg/m <sup>3</sup>

#### **Advisory OEL**

1-phenyl-3-pyrazolidone (CAS 92-43-3): TWA 0.2 mg/m<sup>3</sup>

### **Appropriate engineering controls**

#### **Engineering Measures**

Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Ensure that eyewash stations and safety showers are close to the workstation location.

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

### **Personal Protective Equipment**

#### **General Information**

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied.

#### **Respiratory protection**

In case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

#### **Eye Protection**

Tightly fitting safety goggles: Face-shield.

#### **Skin and body protection**

Impervious clothing. Boots. Chemical resistant apron.

#### **Hand Protection**

Impervious gloves

### **Hygiene measures**

When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Avoid contact with skin, eyes and clothing. For environmental protection, remove and wash all contaminated protective equipment before re-use. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state** liquid

**ph** 0.6

**Flash point:** > 93.4 °C

**Boiling point/boiling range** No information available

**Odor** Pungent

**Color** orange

**Autoignition temperature:** No information available

**Vapor Pressure** No information available

**Vapor density** No information available

**Density** 1.083 g/cm<sup>3</sup>

**Water Solubility** completely soluble

**Melting point/range:** No information available

**Specific Gravity** No information available

**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

None under normal processing.

### Conditions to Avoid

Exposure to air or moisture over prolonged periods. Heat, flames and sparks.

### Materials to Avoid

Strong oxidizing agents. Bases. Amines. Metals.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides. Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Acute toxicity Product Information.

<b>Skin contact</b>	Causes burns.
<b>Eye contact</b>	Causes burns. Corrosive to the eyes and may cause severe damage including blindness.
<b>Inhalation</b>	May be harmful if inhaled. Irritating to mucous membranes. Irritating to respiratory system.
<b>Ingestion</b>	Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts.
<b>Acute toxicity</b>	0% of the mixture consists of ingredient(s) of unknown toxicity
<b>Oral</b>	1,158.00 mg/kg
<b>Dermal</b>	1,397.00 mg/kg

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg ( Rat )	1060 mg/kg ( Rabbit )	11.4 mg/L ( Rat ) 4 h
Water	90,000 mg/kg ( Rat )		
3-Pyrazolidinone, 1-phenyl-	200 mg/kg ( Rat )		

Chemical Name	Other applicable information
Acetic acid	Severe eye irritation Severe skin irritation Acute overexposure to extremely high airborne concentrations of respiratory irritants has been associated with development of an asthma-like reactive airways syndrome (RADS) in susceptible individuals. Extremely high airborne concentrations are not generated during normal conditions of use but may occur following a spill. The potential to generate extremely high airborne concentrations in a spill situation depends upon physical factors such as the concentration of the solution, the volume of the spill, the surface area of the spill, the size of the room where the spill occurred, and the ventilation rate in the room.
3-Pyrazolidinone, 1-phenyl-	Mild skin irritation  Mild skin irritation Repeated exposure  Mild eye irritation  Did not cause sensitization on laboratory animals. guinea pig  Based on repeated-dose ingestion studies in animals, this chemical may cause blood, testicular, and adverse reproductive effects.

**Aggravated Medical Conditions**      Preexisting eye disorders, Skin disorders, Respiratory disorders.

Subchronic toxicity  
no data available

Chronic toxicity

**Chronic toxicity** Avoid repeated exposure. Possible risks of irreversible effects. Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Contains a known or suspected reproductive toxin.

**Sensitization** May cause sensitization of susceptible persons.

**Neurological effects** No information available.

**Target Organ Effects** Respiratory system, Eyes, Skin, Teeth, Blood, Testes.

CMR Effects

**Carcinogenicity** Contains no ingredient listed as a carcinogen.

**Reproductive toxicity** Contains ingredients that are suspected reproductive hazards

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**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
Acetic acid		LC50= 79 mg/L Pimephales promelas 96 h LC50= 75 mg/L Lepomis macrochirus 96 h	EC50 = 47 mg/L 24 h (Daphnia magna) EC50 = 65 mg/L 48 h (Daphnia magna)

**Persistence and degradability**

Degradation						
Type:	Method	Compartment	Sampling time	Units	Result	Units
Chemical Oxygen Demand (COD)					~ 1162	g/l
Biochemical Oxygen Demand (BOD)					~ 644	g/l

**Bioaccumulative potential**

No information available

Chemical Name	log Pow
Acetic acid	-0.31

**Mobility in soil**

No information available

13. DISPOSAL CONSIDERATIONS

**Waste from Residues / Unused Products** Dispose of in accordance with local regulations.

**Contaminated packaging** 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

<b>UN/ID No</b>	UN2790
<b>Proper Shipping Name</b>	Acetic acid solution
<b>Hazard class</b>	8
<b>Packing Group</b>	II
<b>Classification Code</b>	C3
<b>ADR/RID-Labels</b>	8
<b>ADR Hazard Id (Kemmler Number)</b>	80
<b>Limited Quantity</b>	LQ22

##### IMDG/IMO

<b>UN/ID No</b>	UN2790
<b>Proper Shipping Name</b>	Acetic acid, solution
<b>Hazard class</b>	8
<b>Packing Group</b>	II
<b>Marine Pollutant</b>	NP
<b>EmS No.</b>	F-A, S-B
<b>Limited quantity DFDA</b>	1 L

##### ICAO/IATA

<b>UN/ID No</b>	UN2790
<b>Proper Shipping Name</b>	Acetic acid solution
<b>Hazard class</b>	8
<b>Packing Group</b>	II
<b>ERG Code</b>	8L
<b>Limited quantity DFDA</b>	0.5 L

##### ADN

<b>UN/ID No</b>	UN2790
<b>Proper Shipping Name</b>	Acetic acid solution
<b>Hazard class</b>	8
<b>Packing Group</b>	II
<b>Classification Code</b>	C3
<b>Limited quantity DFDA</b>	LQ22

##### TDG

<b>UN/ID No</b>	UN2790
<b>Proper Shipping Name</b>	Acetic acid solution
<b>Hazard class</b>	8
<b>Packing Group</b>	II

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

#### 15. REGULATORY INFORMATION

## International Inventories

<b>EINECS/ELINCS</b>	Complies
<b>TSCA</b>	Complies
<b>DSL/NDSL</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

## National regulatory information

<b>Chemical Name</b>	<b>Toxic Chemicals Control Law</b>	<b>Toxic Release Inventory Chemicals - Group 1</b>	<b>Toxic Release Inventory Chemicals - Group 2</b>
Acetic acid	not applicable	not applicable	>=1.0 %

## 16. OTHER INFORMATION

Revision Date 2013-11-19  
Revision Note (M)SDS sections updated

### Disclaimer

The information provided on this MSDS 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**