

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 C
Product code: 6610000C
Pure substance/mixture Mixture

Use of the Substance/Mixture

Product Use: Photographic chemical.
Restrictions on use Restricted to professional users

Company/Undertaking Identification

Supplier: Carestream Health Taiwan Limited, 4F-1, No. 129, Sec.2, Zhongshan N. Rd., Zhongshan Dist., Taipei, 10448, Taiwan R.O.C.
Manufacturer: Kodak (Wuxi) Company Ltd, No. 18, Changjiang Road, Wuxi, JiangSu Province, China 214028

For further information, please contact:

E-mail Address - For environment, health and safety information, email: WW-EHS@carestreamhealth.com

Emergency telephone

00801-14-8954

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 B
Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Skin sensitization	Category 1
Acute aquatic toxicity	Category 1
Corrosive to metals	Category 1

GHS Label elements, including precautionary statements



Danger

hazard statements

H301 - Toxic if swallowed
H312 - Harmful in contact with skin
H332 - Harmful if inhaled
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H400 - Very toxic to aquatic life
H290 - May be corrosive to metals

Precautionary Statements

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
P271 - Use only outdoors or in a well-ventilated area
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
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P330 - Rinse mouth
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
P333 + P313 - If skin irritation or rash occurs: 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
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P390 - Absorb spillage to prevent material damage
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P406 - Store in corrosive resistant aluminum container with a resistant inliner
P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards which do not result in classification

May form peroxides of unknown stability.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %
Water	40-50
Glutaraldehyde	40-50
Acetic acid	5-10

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.

Main Symptoms

Causes severe skin burns and eye damage
Difficulty breathing. Coughing and/ or wheezing. Burning. May cause an allergic skin reaction

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.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical attention/advice.
Ingestion	Do NOT induce vomiting. If swallowed, call a poison control center or doctor immediately. Rinse mouth. Drink plenty of water. Never give anything by mouth to an unconscious person.
Protection of First-aiders	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

Most important symptoms/effects, acute and delayed

Skin contact	Causes burns. Harmful in contact with skin. May cause sensitization by skin contact.
Eye contact	Causes burns. Corrosive to the eyes and may cause severe damage including blindness.
Inhalation	Harmful by inhalation. May cause sensitization by inhalation. Irritating to mucous membranes. Irritating to respiratory system.
Ingestion	Toxic if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts.

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

Notes to physician	May cause sensitization of susceptible persons. Probable mucosal damage may contraindicate the use of gastric lavage.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Extinguishing media which shall not be used for safety reasons	None.

Specific hazards arising from the chemical

Special Hazard	May form peroxides of unknown stability. Do not allow evaporation to dryness. May cause spontaneous heating and ignition when absorbed on combustible, porous material (e.g. rags, paper, sawdust, cotton, clothing).
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Special protective actions for fire-fighters

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

Other information	None known.
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6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. For personal protection see section 8. Ensure adequate ventilation. Do not touch or walk through spilled material.

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. Prevent product from entering drains.

Other information

Refer to protective measures listed in Sections 7 and 8.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Wear personal protective equipment. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use.

Prevention of fire and explosion

Keep from contact with oxidizing materials. If peroxide formation is suspected, do not open or move container. Minimize exposure to air. Do not distill or allow to evaporate to near dryness.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

Store in original container. Store in corrosive resistant container with a resistant inliner. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Keep at temperatures between 5°C and 30°C. Do not allow evaporation to dryness.

Materials to Avoid

Strong oxidizing agents. Metals. Bases.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Chemical Name	Taiwan	China	ACGIH TLV	European Union
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Glutaraldehyde	Ceiling 0.2 ppm Ceiling 0.82 mg/m ³		Ceiling: 0.05 ppm	
Acetic acid	STEL 15 ppm STEL 37.5 mg/m ³	TWA 10 mg/m ³ STEL 20 mg/m ³	STEL 15 ppm TWA: 10 ppm	TWA 10 ppm TWA 25 mg/m ³

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. 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. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

Eye Protection

Tightly fitting safety goggles. Face-shield.

Skin and body protection

Impervious gloves. Impervious clothing. Chemical resistant apron. Boots.

Hand Protection

Chemical resistant gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion

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 2.3

Flash point: > 93.600 °C

Boiling point/boiling range > 100 °C

Vapor Pressure 24 mbar @ 20 °C

Vapor density 1.8

Density 1.116 g/cm³

Water Solubility completely soluble

Melting point/range: No information available

Specific Gravity 1.116

Bulk Density: No information available

Odor Aldehydes

Color yellow - green

Autoignition temperature: No information available

10. STABILITY AND REACTIVITY

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Stable under recommended storage conditions. On long term storage, may form peroxides of unknown stability.

Possibility of hazardous reactions

May form explosive peroxides.

Conditions to Avoid

Exposure to air or moisture over prolonged periods. Do not allow evaporation to dryness.

Materials to Avoid

Strong oxidizing agents. Metals. Bases.

Hazardous Decomposition Products

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

11. TOXICOLOGICAL INFORMATION

Acute toxicity Product Information.

Skin contact	Causes burns. Harmful in contact with skin. May cause sensitization by skin contact.
Eye contact	Causes burns. Corrosive to the eyes and may cause severe damage including blindness.
Inhalation	Harmful by inhalation. May cause sensitization by inhalation. Irritating to mucous membranes. Irritating to respiratory system.
Ingestion	Toxic if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts.
Unknown acute toxicity	0% of the mixture consists of ingredient(s) of unknown toxicity
Oral	~200 mg/kg
Dermal	~1749 mg/kg
Inhalation	
Gas	No information available
Mist	1.20 mg/L
Vapor	No information available

Acute toxicity - Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Water	90,000 mg/kg (Rat)		
Glutaraldehyde	200 mg/kg (Rat) (50% glutaraldehyde in water)	1749 mg/kg (Rat) (50% glutaraldehyde in water)	0.51 mg/L (4hr Rat)
Acetic acid	3310 mg/kg (Rat)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h Inhalation LC50 Rat 11.4 mg/L 4 h (Source: NLM_CIP)
Chemical Name	Other applicable information		

Glutaraldehyde	Causes eye burns Causes skin burns. Skin Sensitization Respiratory Sensitizer
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.
1H-Indazole, 5-nitro-	Mild skin irritation Repeated exposure Did not cause sensitization on laboratory animals. Mild eye irritation Possible mutagen

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

Subchronic toxicity
no data available

Chronic toxicity
Chronic toxicity

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 Avoid repeated exposure. Possible risks of irreversible effects.

Sensitization
Neurological effects
Target Organ Effects
Other adverse effects

May cause sensitization by skin contact. May cause sensitization by inhalation.
No information available.
Eyes, Skin, Respiratory system, Teeth, Mucous membrane, Gastrointestinal tract (GI).
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.

CMR Effects

Carcinogenicity Contains no ingredient listed as a carcinogen.

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
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Glutaraldehyde	0.61: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50 0.84: 96 h <i>Desmodesmus subspicatus</i> mg/L EC50	2.6 - 4.8: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 flow-through 7.8 - 13: 96 h <i>Oncorhynchus mykiss</i> mg/L LC50 static 7.8 - 22: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 5.4: 96 h <i>Pimephales promelas</i> mg/L LC50 static	0.56 - 1.0: 48 h <i>Daphnia magna</i> mg/L EC50 Static 14: 48 h <i>Daphnia magna</i> mg/L EC50
Acetic acid		75: 96 h <i>Lepomis macrochirus</i> mg/L LC50 static 79: 96 h <i>Pimephales promelas</i> mg/L LC50 static	65: 48 h <i>Daphnia magna</i> mg/L EC50 Static

Persistence and degradability

Readily biodegradable.

Degradation						
Type:	Method	Compartment	Sampling time	Units	Result	Units
Chemical Oxygen Demand (COD)					535	g/l
Biochemical Oxygen Demand (BOD)					146	g/l

Bioaccumulative potential

No information available

Partition coefficient: n-octanol/water

Chemical Name	log Pow
Glutaraldehyde	0.22
Acetic acid	-0.31

Mobility in soil

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 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	UN3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s.
Technical Name	Glutaraldehyde, Acetic acid
Hazard class	8
Packing Group	III
Classification Code	C3
ADR/RID-Labels	8
Special Provisions	274
ADR Hazard Id (Kemmler Number)	80
Hazchem Code	2X
Limited Quantity	LQ7

IMDG/IMO

UN/ID No	UN3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s.
Technical Name	Glutaraldehyde, Acetic acid
Hazard class	8
Packing Group	III
Marine Pollutant	NP
Marine pollutant	Glutaraldehyde
EmS No.	F-A, S-B
Special Provisions	223, 274
Limited quantity DFDA	5 L

ICAO/IATA

UN/ID No	UN3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s.
Technical Name	Glutaraldehyde, Acetic acid
Hazard class	8
Packing Group	III
ERG Code	8L
Special Provisions	A3
Limited quantity DFDA	1 L

ADN

UN/ID No	UN3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s.
Technical Name	Glutaraldehyde, Acetic acid
Hazard class	8
Packing Group	III
Classification Code	C3
Special Provisions	274
Limited quantity DFDA	LQ7

TDG

UN/ID No	UN3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s.
Technical Name	Glutaraldehyde, Acetic acid
Hazard class	8
Packing Group	III

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

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/NDL - 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

Revision Date	2014-05-20
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 Safety Data Sheet