

## MATERIAL SAFETY DATA SHEET

Page 1 / 9

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Version 2.01

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

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

**Product code:** 1249259C

**Supplier** Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608

For Emergency Health Information call: 800-424-9300

T: +82-2-3438-7300

**Product Use:** Photographic chemical.

## 2. HAZARDS IDENTIFICATION

**DANGER!****Emergency Overview**

Corrosive

The product causes burns of eyes, skin and mucous membranes

Irritating to respiratory system

Harmful if swallowed

May be harmful if inhaled

May be harmful if absorbed through skin

May cause sensitization by skin contact

**Physical state** liquid

**Odor** Aldehydes

**Color** yellow - green

**HMIS**

**Health Hazard** - 3

**Flammability** - 1

**Physical - 1 Hazard**

**Potential Health Effects**

**Eyes**

Causes burns. Corrosive to the eyes and may cause severe damage including blindness.

**Skin**

Causes burns. May be harmful in contact with skin. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

**Inhalation**

May be harmful if inhaled. Irritating to respiratory system.

**Ingestion**

Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts.

**Chronic Effects**

**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.

**Aggravated Medical Conditions**

Allergies. Skin disorders. Respiratory disorders. Preexisting eye disorders.

**Environmental hazard**

Very toxic to aquatic organisms. See Section 12 for additional Ecological Information.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

## Hazardous

Chemical Name	CAS-No	Weight %
Glutaraldehyde	111-30-8	40-50
Acetic acid	64-19-7	5-10

## Non-Hazardous

Chemical Name	CAS-No	Weight %
Water	7732-18-5	40-50
1H-Indazole, 5-nitro-	5401-94-5	1-5

### 4. FIRST AID MEASURES

<b>General advice</b>	Immediate medical attention is required. Show this material safety data sheet to the doctor in attendance.
<b>Eye contact</b>	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.
<b>Skin contact</b>	Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Inhalation</b>	Move to fresh air. Oxygen or artificial respiration if needed. Seek immediate medical attention/advice.
<b>Ingestion</b>	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. Never give anything by mouth to an unconscious person. Immediate medical attention is required.
<b>Notes to physician</b>	May cause sensitization of susceptible persons. Probable mucosal damage may contraindicate the use of gastric lavage. Treat symptomatically.
<b>Protection of First-aiders</b>	Use personal protective equipment. Avoid contact with skin, eyes and clothing.

### 5. FIRE-FIGHTING MEASURES

<b>Flash point:</b>	> 93.600 °C
<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<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**

The product causes burns of eyes, skin and mucous membranes. May form peroxides of unknown stability. May cause spontaneous heating and ignition when absorbed on combustible, porous material (e.g. rags, paper, sawdust, cotton, clothing).

**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 - 3****Flammability - 1****Stability - 1**

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions</b>	Use personal protective equipment. For personal protection see section 8. Ensure adequate ventilation. Do not touch or walk through spilled material.
<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	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.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

## 7. HANDLING AND STORAGE

<b>Advice on safe handling</b>	Handle product only in closed system or provide appropriate exhaust ventilation at machinery. Wear personal protective equipment. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing.
<b>Technical measures/Storage conditions</b>	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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Glutaraldehyde 111-30-8	Ceiling: 0.05 ppm			
Acetic acid 64-19-7	STEL 15 ppm TWA: 10 ppm		TWA: 10 ppm TWA: 25 mg/m <sup>3</sup>	

### Occupational Exposure Controls

<b>Engineering Measures</b>	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.
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### Personal Protective Equipment

<b>General Information</b>	These recommendations apply to the product as supplied.
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<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.
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<b>Eye/Face Protection</b>	Tightly fitting safety goggles. Face-shield.
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<b>Skin and body protection</b>	Impervious clothing.
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<b>Hand Protection</b>	Impervious gloves.
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## 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 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

**Stability** Stable under normal conditions. May form explosive peroxides.

**Incompatible products** Bases. Strong oxidizing agents. Metals.

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

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

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

**Hazardous Reactions** May form explosive peroxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity - Product Information

**Skin** Causes burns. May be harmful in contact with skin. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

**Eyes** Causes burns. Corrosive to the eyes and may cause severe damage including blindness.

**Inhalation** May be harmful if inhaled. Irritating to respiratory system.

**Ingestion** Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts.

### Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
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

1H-Indazole, 5-nitro-	3200 mg/kg ( Rat )	> 1000 mg/kg (guinea pig)	
<b>Chemical Name</b>	<b>Other applicable information</b>		
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		

**Subchronic toxicity**

No information available

**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.

**Carcinogenicity**

Contains no ingredient listed as a carcinogen.

**Sensitization**

May cause sensitization by skin contact.

**Target Organ Effects**

Respiratory system, Eyes, Skin, Teeth, Mucous membrane, Gastrointestinal tract (GI).

**Other adverse 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.

**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
Glutaraldehyde	0.61 mg/L EC50 72 h (Desmodesmus subspicatus) 0.84 mg/L EC50 96 h (Desmodesmus subspicatus)	LC50 7.8 - 22 mg/L Lepomis macrochirus 96 h LC50 2.6 - 4.8 mg/L Oncorhynchus mykiss 96 h LC50 7.8 - 13 mg/L Oncorhynchus mykiss 96 h LC50= 5.4 mg/L Pimephales promelas 96 h	EC50 = 14 mg/L 48 h (Daphnia magna) EC50 0.56 - 1.0 mg/L 48 h (Daphnia magna)
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** Readily biodegradable.

**Bioaccumulation:** - No information available

**Mobility** - No information available

Chemical Name	log Pow
Glutaraldehyde	0.22
Acetic acid	-0.31

### 13. DISPOSAL CONSIDERATIONS

**Waste Disposal Methods** 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.

#### DOT

<b>UN/ID No</b>	UN3265
<b>Proper Shipping Name</b>	Corrosive liquid, acidic, organic, n.o.s.
<b>Technical Name</b>	Glutaraldehyde, Acetic acid
<b>Hazard class</b>	8
<b>Packing Group</b>	III
<b>Special Provisions</b>	IB3, T7, TP1, TP28
<b>Emergency Response Guide Number</b>	153

#### TDG

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

#### ICAO/IATA

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

#### IMDG/IMO

<b>UN/ID No</b>	UN3265
<b>Proper Shipping Name</b>	Corrosive liquid, acidic, organic, n.o.s.
<b>Technical Name</b>	Glutaraldehyde, Acetic acid
<b>Hazard class</b>	8
<b>Packing Group</b>	III
<b>EMS No.</b>	F-A, S-B
<b>Special Provisions</b>	223, 274
<b>Marine pollutant</b>	Glutaraldehyde

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

## 15. REGULATORY INFORMATION

"Does not comply" indicates a component is either not on the public inventory or is subject to exemption requirements. If additional information is needed contact Carestream Health.

### International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	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

### U.S. Federal Regulations

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

#### Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Acetic acid	5000 lb			X

#### Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPs) under Section 112 of the Clean Air Act:

Chemical Name	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Glutaraldehyde - 111-30-8		Group IV		
Acetic acid - 64-19-7		Group II		

### CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Product RQ
Acetic acid	5000 lb		

### TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping
Glutaraldehyde	PAIR: 09/30/1991
Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances
Glutaraldehyde	09/30/1991

### U.S. State Regulations

#### California Proposition 65

This product does not contain any Proposition 65 chemicals.

#### U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Glutaraldehyde	X	X	X		X
Acetic acid	X	X	X		X

### International Regulations

#### Mexico - Grade

Serious risk, Grade 3

Chemical Name	Carcinogen Status	Exposure Limits
Glutaraldehyde		Mexico: Ceiling 0.2 ppm Mexico: Ceiling 0.7 mg/m <sup>3</sup>
Acetic acid		Mexico: TWA 10 ppm Mexico: TWA 25 mg/m <sup>3</sup> Mexico: STEL 15 ppm Mexico: STEL 37 mg/m <sup>3</sup>

### 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.

#### DANGER!

#### Hazardous Components

Chemical Name	CAS-No	Weight %
Glutaraldehyde	111-30-8	40-50
Acetic acid	64-19-7	5-10

Corrosive. The product causes burns of eyes, skin and mucous membranes. Irritating to respiratory system. Harmful if swallowed. May be harmful if inhaled. May be harmful if absorbed through skin. May cause sensitization by skin contact.

**Product code:** 1249259C

**Version** 2.01

**Revision Date** 2013-03-29

Page 9 / 9

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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 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

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