

SAFETY DATA SHEET

Issuing date 2014-01-07

Revision Date 2014-01-07

Version 1

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

Product name: KODAK RP X-OMAT Developer and Replenisher, Working solution
RP X-OMAT Developer and Replenisher, Working solution

Product code: 1249259WS

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

Emergency telephone number
CHEMTREC: +1-703-527-3887 (INTERNATIONAL)
1-800-424-9300 (NORTH AMERICA)

For other information contact: 800-328-2910

Product Use: Photographic chemical.

2. HAZARDS IDENTIFICATION

Classification

Serious eye damage/eye Irritation	Category 2A
Skin Sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 2

Label Elements

Emergency Overview

Signal Word

Warning

Hazard statements

Causes serious eye irritation
May cause an allergic skin reaction
Suspected of causing genetic defects
Suspected of causing cancer



Appearance No information available

Physical state liquid

Odor Slight

Precautionary Statements - Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Wash face, hands and any exposed skin thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement - Response

IF exposed or concerned: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/ attention. IF ON SKIN: Wash skin with soap and water.

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Precautionary Statement - Storage

Store in a closed container.

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC)

- not applicable

Other information

Harmful to aquatic life with long lasting effects. Harmful to aquatic life.
<7% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %	Trade Secret
Water 7732-18-5	7732-18-5	>85	*
Potassium sulfite 10117-38-1	10117-38-1	5-10	*
Hydroquinone 123-31-9	123-31-9	1-5	*
Potassium acetate 127-08-2	127-08-2	1-5	*
1,5-Pentanedisulfonic acid, 1,5-dihydroxy-, dipotassium salt 68310-08-7	68310-08-7	1-5	*
Diethylene glycol 111-46-6	111-46-6	0.1-1	*
Sodium sulfite 7757-83-7	7757-83-7	0.1-1	*
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt 140-01-2	140-01-2	0.1-1	*
Sodium borate 1330-43-4	1330-43-4	0.1-1	*
Glutaraldehyde 111-30-8	111-30-8	0.1-1	*

*The exact percentages (concentrations) have been withheld as trade secrets.

4. FIRST AID MEASURES

First Aid Measures

General advice	Show this material safety data sheet to the doctor in attendance. If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray.
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary. May cause an allergic skin reaction.
Inhalation	Move to fresh air. Consult a physician.
Ingestion	Do NOT induce vomiting. Drink plenty of water. If symptoms persist, call a physician. Rinse mouth. Never give anything by mouth to an unconscious person.
Protection of First-aiders	Use personal protective equipment.

Most important symptoms and effects, both acute and delayed

Main Symptoms Irritation. May cause an allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Notes to physician May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Cool containers / tanks with water spray. Carbon dioxide (CO₂). Foam. Dry chemical.

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact.

Hazardous Combustion Products

Hazardous decomposition products due to incomplete combustion.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. For personal protection see section 8. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists.

Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

Methods and material for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep away from direct sunlight. Keep container tightly closed in a dry and well-ventilated place.

Incompatible products Strong acids. Oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Hydroquinone 123-31-9	TWA: 1 mg/m ³		TWA: 2 mg/m ³	
Diethylene glycol 111-46-6	-	TWA: 10 mg/m ³	-	
Sodium borate 1330-43-4	STEL 6 mg/m ³ TWA: 2 mg/m ³		-	
Glutaraldehyde 111-30-8	Ceiling: 0.05 ppm		-	

Appropriate engineering controls

Engineering Measures Ensure adequate ventilation. Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles. Eyewash equipment and safety shower should be provided in areas of potential exposure.

Skin and body protection	Wear protective gloves/clothing. Skin contact should be prevented through use of suitable protective clothing, gloves, and footwear, selected with regard of use conditions and exposure potential.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
Hygiene measures	Remove and wash contaminated clothing before re-use. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid	Odor	Slight
Appearance	No information available	Odor Threshold	No information available
Color	yellow		
Property	Values	Remarks/ • Method	
ph	10.3	No information available	
Melting point/range:		No information available	
Boiling point/boiling range		No information available	
Flash Point		Does not flash.	
Evaporation rate		No information available	
Flammability (solid, gas)			
upper flammability limit			
lower flammability limit			
Vapor pressure	24 mbar @ 20 °C	No information available	
Vapor density	0.6	No information available	
Specific Gravity		No information available	
Water Solubility	completely soluble	No information available	
Solubility in other solvents		No information available	
Partition coefficient: n-octanol/water		No information available	
Autoignition temperature		No information available	
Decomposition temperature		No information available	
Viscosity, kinematic		No information available	
Viscosity, dynamic		No information available	
Explosive properties	No information available		
Oxidizing Properties	No information available		
Other information			
Softening point	No information available		
Density VALUE	No information available		
Bulk Density VALUE	No information available		

10. STABILITY AND REACTIVITY

Reactivity
not applicable

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions

Contact with strong acids liberates sulfur dioxide.

Conditions to Avoid

Incompatible products.

Incompatible Materials

Strong acids. Oxidizing agents.

Hazardous Decomposition Products

Carbon oxides, Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	Expected to be a low hazard for recommended handling. May cause irritation of respiratory tract. Contact with strong acids liberates sulfur dioxide.
Eye contact	Irritating to eyes. Avoid contact with eyes.
Skin contact	May cause skin irritation and/or dermatitis. Prolonged or repeated contact may dry skin and cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Avoid contact with skin.
Ingestion	May be harmful if swallowed. 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.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water 7732-18-5	90,000 mg/kg (Rat)	-	-
Hydroquinone 123-31-9	320 mg/kg (Rat) Oral LD50 Rat 320 mg/kg (Source: IUCLID)	> 4800 mg/kg (Rat)	-
Potassium acetate 127-08-2	3250 mg/kg (Rat) Oral LD50 Rat 3250 mg/kg (Source: NLM_CIP)	-	-
Diethylene glycol 111-46-6	12565 mg/kg (Rat)	11890 mg/kg (Rabbit)	-
Sodium borate 1330-43-4	2403 mg/kg (Rat) Oral LD50 Rat 2403 mg/kg (Source: IUCLID)	2000 mg/kg (Rabbit) Dermal LD50 Rabbit >2000 mg/kg (Source: IUCLID)	-
Glutaraldehyde 111-30-8	200 mg/kg (Rat) (50% glutaraldehyde in water)	1749 mg/kg (Rat) (50% glutaraldehyde in water)	0.51 mg/L (4hr Rat)

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 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.

Information on toxicological effects

Symptoms Irritant. rash.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization May cause sensitization by skin contact. 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.

mutagenic effects No specific testing was done on this product. Mutagenic testing of the hazardous ingredient in this product has resulted in some positive mutagenic results.

Carcinogenicity Contains a known or suspected carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
Hydroquinone 123-31-9	A3			

ACGIH: (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

Reproductive toxicity Contains ingredients that are suspected reproductive hazards. However, based on available data the product should not be classified for reproductive effects.

STOT - single exposure No information available

STOT - repeated exposure No information available

Chronic toxicity Effects expected to be similar to those seen acutely. Contains a known or suspected reproductive toxin. Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.

Target Organ Effects Skin, Eyes, Respiratory system, Reproductive system, Central nervous system.

Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

Unknown Acute Toxicity <7% of the mixture consists of ingredient(s) of unknown toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 10825 mg/kg ppm mg/L

12. ECOLOGICAL INFORMATION

Ecotoxicity

Very toxic to aquatic life

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Potassium sulfite 10117-38-1		LC50 220 - 460 mg/L Leuciscus idus 96 h		
Hydroquinone 123-31-9	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)
Potassium acetate 127-08-2		LC50= 6800 mg/L Oncorhynchus mykiss 96 h		EC50 = 7170 mg/L 24 h (Daphnia magna)
Diethylene glycol 111-46-6		LC50= 75200 mg/L Pimephales promelas 96 h		EC50 = 84000 mg/L 48 h (Daphnia magna)
Sodium sulfite 7757-83-7		LC50 220 - 460 mg/L Leuciscus idus 96 h		LC50 = 330 mg/L 24 h (Psammechinus miliaris)
Glycine, N,N-bis[2-[bis(carboxymethyl) (amino)ethyl]-, pentasodium salt 140-01-2	2.6 mg/L EC50 72 h (Desmodesmus subspicatus)	LC50 1005 - 1250 mg/L Lepomis macrochirus 96 h LC50> 300 mg/L Pimephales promelas 96 h		EC50 > 500 mg/L 48 h (Daphnia magna)
Sodium borate 1330-43-4	158 mg/L EC50 96 h (Desmodesmus subspicatus) 2.6 - 21.8 mg/L EC50 96 h (Pseudokirchneriella subcapitata)	LC50= 340 mg/L Limanda limanda 96 h		LC50 1085 - 1402 mg/L 48 h (Daphnia magna)
Glutaraldehyde 111-30-8	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)

Persistence and degradability

No data is available on the product itself. Expected to be readily biodegradable.

Bioaccumulation:

Most components of this material are unlikely to bioaccumulate but some have not been tested.

Chemical Name	log Pow
Hydroquinone 123-31-9	0.5
Diethylene glycol 111-46-6	-1.98
Sodium sulfite 7757-83-7	-4

Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt 140-01-2	-3.05
Glutaraldehyde 111-30-8	0.22

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods

Dispose of in accordance with local regulations. Should not be released into the environment.

Contaminated packaging

Do not re-use empty containers. Dispose of in accordance with local regulations.

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Hydroquinone 123-31-9		Included in waste stream: K060		

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Glutaraldehyde 111-30-8	Toxic

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

Not regulated (If shipped in NON BULK packaging by ground transport)

TDG

UN/ID No UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Technical Name Hydroquinone
Hazard class 9
Packing Group III

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

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
EmS No. F-A, S-F

Special Provisions

179, 274, 335, 909

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	Does not comply
ENCS	Does not comply
IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Does not comply
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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	SARA 313 - Threshold Values %
Hydroquinone - 123-31-9	1.0

SARA 311/312 Hazard Categories

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

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):

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
Hydroquinone - 123-31-9		Group I		
Diethylene glycol - 111-46-6		Group I		

Glutaraldehyde - 111-30-8		Group IV		
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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
Hydroquinone	100 lb	100 lb	

TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping	
Glutaraldehyde	PAIR: 09/30/1991	
Component	U.S. - TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances	
Hydroquinone 123-31-9 (1-5)	10/04/1984	
Glutaraldehyde 111-30-8 (0.1-1)	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
Hydroquinone	X	X	X	X	X

International Regulations

Mexico - Grade Moderate risk, Grade 2

Chemical Name	Carcinogen Status	Exposure Limits
Hydroquinone	A3	Mexico: TWA 2 mg/m ³
Sodium borate		Mexico: TWA 1 mg/m ³
Glutaraldehyde		Mexico: Ceiling 0.2 ppm Mexico: Ceiling 0.7 mg/m ³

16. OTHER INFORMATION

NFPA HMIS

Health Hazard 2
Health Hazard 2*

Flammability 0
Flammability 0

Instability 0
Physical Hazard 0

Revision Date

2014-01-07

Revision Note

(M)SDS sections updated

Disclaimer

The information provided in this Safety Data Sheet 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text.

End of Material Safety Data Sheet