Carestream

MATERIAL SAFETY DATA SHEET

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

Identification of the substance or preparation

Product name: KODAK X-OMAT EX II Developer and Replenisher, Part 2

Product code: 6585038DEV2

Pure substance/preparation Preparation

Use of the Substance/Preparation

Photographic chemical.
Restricted to professional users

Company/Undertaking Identification

Supplier: CARESTREAM o Brasil Comercio e Servicos de Produtos Medicos Ltda
Rodovia Presidente Dutra Km 154,7, Prédio nº 6 - 1º andar, Parte A, São José dos Campos, São Paulo, CEP 12.240-420

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

For other information contact: 800-328-2910

Emergency telephone

+1(703)527-3887

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Acute Oral Toxicity	Category 4
Acute Dermal Toxicity	Category 5
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Specific Target Organ Toxicity (Single Exposure)	Category 1
Acute Aquatic Toxicity	Category 2

GHS Label elements, including precautionary statements

DANGER

Hazard Statements
H302 - Harmful if swallowed
H313 - May be harmful in contact with skin
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H370 - Causes damage to organs
H401 - Toxic to aquatic life

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
P285 - In case of inadequate ventilation wear respiratory protection
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell
P330 - Rinse mouth
P304 + P340 - IF INHALED: Remove 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
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention
P362 - Take off contaminated clothing and wash 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
P310 - Immediately call a POISON CENTER or doctor/ physician
P391 - Collect spillage
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards which do not result in classification

May cause adverse liver effects
May form peroxides of unknown stability
Contact with strong acids liberates sulfur dioxide

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC-No	Weight %	CAS-No	Classification (67/548)	EU - GHS Substance Classification
Diethylene glycol	203-872-2	30 - 35	111-46-6	Xn; R22	Acute Tox. 4 (H302) STOT SE 1 (H372)
1,5-Pentanedisulfonic acid, 1,5-dihydroxy-, disodium salt	231-043-5	10 - 15	7420-89-5	Xn;R21	Acute Tox. 4 (H312)
Glutaraldehyde	203-856-5	5 - 10	111-30-8	T; R23/25 C; R34 R42/43 N; R50	Acute Tox. 3 (H301) Skin Corr. 1B (H314) Acute Tox. 3 (H331) Resp. Sens. 1 (H334) Skin Sens. 1 (H317) Aquatic Acute 1 (H400)

Acetic acid	200-580-7	1 - 5	64-19-7	R10 C; R35	Skin Corr. 1A (H314) B Flam. Liq. 3 (H226) B

For the full text of the R-phrases mentioned in this Section, see Section 16

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. Do not breathe vapors, mist or gas.

Eye contact Immediate medical attention is required. Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.

Skin contact Immediate medical attention is required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Remove and wash contaminated clothing before re-use.

Inhalation Move to fresh air. Consult a physician. Artificial respiration and/or oxygen may be necessary. Immediate medical attention is not required.

Ingestion Call a physician or Poison Control Center immediately. Do NOT induce vomiting. Drink plenty of water. Rinse mouth. Never give anything by mouth to an unconscious person.

Protection of First-aiders Use personal protective equipment.

Most important symptoms/effects, acute and delayed

Skin contact Irritating to skin. May cause sensitization by skin contact. May be harmful in contact with skin.

Eye contact Risk of serious damage to eyes. May cause burns.

Inhalation Harmful by inhalation. May cause sensitization by inhalation. Irritating to respiratory system. Contact with strong acids liberates sulfur dioxide. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion Harmful if swallowed. May cause adverse kidney effects. May cause central nervous system depression.

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

Notes to physician May cause sensitization of susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point: See chapter 9. PHYSICAL AND CHEMICAL PROPERTIES

Suitable Extinguishing Media

Suitable Extinguishing Media	The product is not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Cool containers / tanks with water spray.
Extinguishing media which shall not be used for safety reasons	None.

Specific hazards arising from the chemical

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases	Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Thermal decomposition can lead to release of irritating gases and vapors. May form peroxides of unknown stability.

Special protective actions for fire-fighters

Special protective equipment for fire-fighters	Wear self contained breathing apparatus for fire fighting if necessary.

Other information

Other information	Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Avoid contact with skin, eyes and clothing. Do not breathe vapors or spray mist. Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. For personal protection see section 8.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. 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. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up

Dam up. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. 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. Do not eat, drink or smoke when using this product. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols. Use only in area provided with appropriate exhaust ventilation.

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 Protect from light. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at temperatures between 5°C and 30°C. Do not freeze. Do not allow evaporation to dryness.

Materials to Avoid Oxidizing agents. Strong acids. Contact with strong acids liberates sulfur dioxide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Chemical Name	Argentina	Brazil	Chile	Venezuela
Glutaraldehyde	Ceiling: 0.05 ppm Sen+		Ceiling: 0.05 ppm Ceiling: 0.2 mg/m³	Ceiling: 0.05 ppm Sen+
Acetic acid	TWA: 10 ppm STEL: 15 ppm	TWA: 8 ppm TWA: 20 mg/m³	TWA: 8 ppm TWA: 20 mg/m³ STEL: 15 ppm STEL: 37 mg/m³	TWA: 10 ppm STEL: 15 ppm

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 None under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Eye Protection If splashes are likely to occur, wear: Tightly fitting safety goggles

Skin and body protection Lightweight protective clothing. Apron. Impervious gloves. Long sleeved clothing. Wear suitable protective clothing. Antistatic boots.

Hand Protection Impervious 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 Avoid natural rubber gloves

In case of full contact:			
Glove material	**Glove thickness**	**Break through time**	**Remarks**
Nitrile rubber	>= 0.38 mm	> 480 min	
Neoprene	>= 0.65 mm	> 240 min	
butyl-rubber	>= 0.36 mm	> 480 min	

Hygiene measures When using, do not eat, drink or smoke. Provide regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid
pH: 2.75
Flash point: > 93.430 °C
Boiling Point/Range: > 35 °C

Odor: No information available
Color: No information available
Autoignition temperature: No information available

Volatile organic compounds (VOC) content No information available
Water Solubility: completely soluble
Melting point/range: No information available
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. Reacts with air to form peroxides. Hazardous polymerization does not occur.

Possibility of hazardous reactions

None under normal processing

Conditions to Avoid

Exposure to air or moisture over prolonged periods. Do not allow evaporation to dryness. Shock. To avoid thermal decomposition, do not overheat. Do not freeze. Exposure to light.

Materials to Avoid

Oxidizing agents. Strong acids. Contact with strong acids liberates sulfur dioxide.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity Product Information

Skin contact Irritating to skin. May cause sensitization by skin contact. May be harmful in contact with skin.

Eye contact Risk of serious damage to eyes. May cause burns.

Inhalation Harmful by inhalation. May cause sensitization by inhalation. Irritating to respiratory system. Contact with strong acids liberates sulfur dioxide. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion Harmful if swallowed. May cause adverse kidney effects. May cause central nervous system depression.

Acute Toxicity Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Diethylene glycol	12565 mg/kg (Rat)	11890 mg/kg (Rabbit)	
1,5-Pentanedisulfonic acid, 1,5-dihydroxy-, disodium salt	> 3200 mg/kg (Rat)	> 1000 mg/kg (guinea pig)	
Glutaraldehyde	200 mg/kg (Rat) (50% glutaraldehyde in water)	1749 mg/kg (Rat) (50% glutaraldehyde in water)	
Acetic acid	3310 mg/kg (Rat)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h

Chemical Name	Other applicable information
Diethylene glycol	Mild skin irritation - Moderate skin irritation Mild eye irritation Can cause kidney damage and CNS effects following ingestion. Repeated oral exposure to high doses can cause liver damage
1H-Indazole, 5-nitro-	Mild skin irritation Mild skin irritation (Repeated exposure) Did not cause sensitization on laboratory animals Mild eye irritation
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 occured, and the ventilation rate in the room
1,5-Pentanedisulfonic acid, 1,5-dihydroxy-, disodium salt	Moderate eye irritation - Slight Moderate skin irritation - Strong Skin Sensitization (guinea pig) negative Was not a skin sensitizer in animal studies and has not been reported to cause allergic skin reaction in humans. In an alkaline solution, glutaraldehyde bis(sodium bisulfite) may release free glutaraldehyde, a known skin sensitizer

Aggravated Medical Conditions Allergies, Skin disorders, Respiratory disorders, Preexisting eye disorders, Kidney disorders, Liver disorders, Neurological disorders.

Subchronic toxicity

no data available

Chronic toxicity

Sensitization May cause sensitization by inhalation and skin contact.

Neurological effects Ingredients of the product may affect the nervous system. Ingestion of larger amounts may cause defects to the central nervous system (e.g. dizziness, headache).

Target Organ Effects Respiratory system, Eyes, Skin, Teeth, Central nervous system (CNS), Kidney, Liver.

CMR Effects

Carcinogenicity No information available.

IARC: (International Agency for Research on Cancer)
ACGIH: (American Conference of Governmental Industrial Hygienists)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Contains a substance which is: 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 microorganisms	Toxicity to daphnia and other aquatic invertebrates
Diethylene glycol		LC50= 75200 mg/L Pimephales promelas 96 h		EC50 = 84000 mg/L 48 h
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 EC50 0.56 - 1.0 mg/L 48 h
Acetic acid		LC50= 79 mg/L Pimephales promelas 96 h LC50= 75 mg/L Lepomis macrochirus 96 h		EC50 = 47 mg/L 24 h EC50 = 65 mg/L 48 h

Persistence and degradability:
No information available

Bioaccumulative potential
No information available

Chemical Name	log Pow
Diethylene glycol	-1.98
Glutaraldehyde	0.22
Acetic acid	-0.31

13. DISPOSAL CONSIDERATIONS

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

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ADR/RID	Not regulated
IMDG/IMO	Not regulated
ICAO/IATA	Not regulated
ADN	Not regulated
DOT	Not regulated
TDG	Not regulated
MEX	Not regulated

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

16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3
R10 - Flammable
R22 - Harmful if swallowed
R34 - Causes burns
R35 - Causes severe burns
R41 - Risk of serious damage to eyes
R50 - Very toxic to aquatic organisms

Risk Combination Phrases
R23/25 - Toxic by inhalation and if swallowed
R37/38 - Irritating to respiratory system and skin
R42/43 - May cause sensitization by inhalation and skin contact

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