

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

#### Identification of the substance or mixture

**Product name:** KODAK X-OMAT EX II Developer and Replenisher, Part 1

**Product code:** 6585038DEV1

**Pure substance/mixture** Mixture

#### Use of the Substance/Mixture

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](mailto:WW-EHS@carestreamhealth.com)

For other information contact: 800-328-2910

#### Emergency telephone

+(55)-2139581449

### 2. HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

Acute oral toxicity	Category 5
Serious eye damage/eye irritation	Category 2
Germ Cell Mutagenicity	Category 2
Carcinogenicity	Category 2
Specific target organ systemic toxicity (single exposure)	Category 2
Acute aquatic toxicity	Category 1

#### GHS Label elements, including precautionary statements



**WARNING**

### Hazard Statements

H303 - May be harmful if swallowed  
H319 - Causes serious eye irritation  
H341 - Suspected of causing genetic defects  
H351 - Suspected of causing cancer  
H371 - May cause damage to organs

### Precautionary Statements

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
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  
P281 - Use personal protective equipment as required  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337 + P313 - If eye irritation persists: Get medical advice/ attention  
P309 + P311 - IF exposed or if you feel unwell: Call a POISON CENTER or doctor/ physician  
P405 - Store locked up  
P501 - Dispose of contents/ container to an approved waste disposal plant

### Other hazards which do not result in classification

Contact with strong acids liberates sulfur dioxide.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Hydroquinone	123-31-9	5 - 10
Diethylene glycol	111-46-6	1 - 5
Sodium carbonate	497-19-8	1 - 5
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt	140-01-2	< 1

## 4. FIRST AID MEASURES

### Description of necessary first-aid measures

<b>General advice</b>	Show this material safety data sheet to the doctor in attendance. Immediate medical attention is required. Do not breathe vapors, mist or gas.
<b>Eye contact</b>	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. Get medical attention immediately if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is not required. If symptoms persist, call a physician. Wash/Decontaminate removed clothing before reuse.
<b>Inhalation</b>	Move to fresh air. Consult a physician. Immediate medical attention is not required.
<b>Ingestion</b>	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician immediately. Drink plenty of water. Clean mouth with water.
<b>Protection of First-aiders</b>	Use personal protective equipment.

### Most important symptoms/effects, acute and delayed

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<b>Skin contact</b>	No skin irritation. This mixture contains hydroquinone which is classified as a dermal sensitizer in some jurisdictions. The 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.
<b>Eye contact</b>	Irritating to eyes.
<b>Inhalation</b>	No known effect based on information supplied.
<b>Ingestion</b>	May be 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.

**Extinguishing media which shall not be used for safety reasons** None.

Specific hazards arising from the chemical

**Special Hazard** Thermal decomposition can lead to release of irritating gases and vapors.

Special protective actions for fire-fighters

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

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. Use personal protective equipment. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. For personal protection see section 8. Do not breathe vapors or spray mist.

Environmental precautions

Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

### Methods and materials for containment and cleaning up

Prevent further leakage or spillage if safe to do so.  
Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. 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. For personal protection see section 8.

### Conditions for safe storage, including any incompatibilities

**Technical measures/Storage conditions** Keep away from direct sunlight. Keep containers tightly closed in a cool, well-ventilated place. Keep at temperatures between 5°C and 30°C.

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

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **Exposure limits**

Chemical Name	ACGIH TLV	Argentina	Brazil	Chile	Venezuela	Exposure Limits
Hydroquinone	TWA: 1 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>		TWA: 1.6 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>	Mexico: TWA 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. 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. None under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.

##### **Respiratory protection**

**Eye Protection** If splashes are likely to occur, wear: Safety glasses with side-shields Tightly fitting safety goggles

**Skin and body protection** Lightweight protective clothing. Apron. Impervious gloves. Long sleeved clothing.

**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. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical state** liquid

**ph** 11

**Flash point:** Does not flash

**Boiling point/boiling range** > 100 °C / 212 °F

**Odor** Slight

**Color** light yellow

**Autoignition temperature:** No information available

**Vapor Pressure** 24 hPa @ 20 °C

**Vapor density** 0.6

**Density** No information available

**Volatile organic compounds (VOC) content** 60 - 65 %

**Water Solubility** No information available completely soluble

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

**Specific Gravity** 1.24

**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

Temperatures above 180°C. To avoid thermal decomposition, do not overheat. Heating can release hazardous gases.

### Materials to Avoid

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

## Hazardous Decomposition Products

Carbon oxides. Sulfur oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity - Product Information

<b>Skin contact</b>	No skin irritation. This mixture contains hydroquinone which is classified as a dermal sensitizer in some jurisdictions. The 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.
<b>Eye contact</b>	Irritating to eyes.
<b>Inhalation</b>	No known effect based on information supplied.
<b>Ingestion</b>	May be harmful if swallowed. May cause adverse kidney effects. May cause central nervous system depression.
<b>LD50 Oral:</b>	> 2000 mg/kg (rat)

### Acute toxicity - Component Information

<b>Chemical Name</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Hydroquinone	320 mg/kg ( Rat )	> 4800 mg/kg (Rat)	
Diethylene glycol	12565 mg/kg ( Rat )	11890 mg/kg ( Rabbit )	
Sodium carbonate	4090 mg/kg ( Rat )		

<b>Chemical Name</b>	<b>Other applicable information</b>
Potassium sulfite	Mild skin irritation - Moderate skin irritation

Hydroquinone	<p>Moderate eye irritation</p> <p>Causes sensitization on guinea-pigs</p> <p>Mild skin irritation</p> <p>Can be absorbed through skin (1.1 ug/cm2/hr)</p> <p>Negative in bacterial mutagenicity assays. Evidence for mutagenicity (chromosome breakage, sister-chromatid exchanges) in in vivo and in vitro animal studies</p> <p>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.</p>
Diethylene glycol	<p>Mild skin irritation</p> <p>-</p> <p>Moderate skin irritation</p> <p>Mild eye irritation</p> <p>Can cause kidney damage and CNS effects following ingestion. Repeated oral exposure to high doses can cause liver damage.</p>
Sodium carbonate	Mild skin irritation
3-Pyrazolidinone, 4-(hydroxymethyl)-4-methyl-1-phenyl-	<p>Mild skin irritation</p> <p>Skin Sensitization</p> <p>-</p> <p>Slight</p> <p>Eye Irritation</p> <p>-</p> <p>Strong</p> <p>Based on repeated-dose ingestion studies in animals, this chemical may cause blood, testicular, and adverse reproductive effects.</p>

**Aggravated Medical Conditions**

Preexisting eye disorders, Neurological disorders, Kidney disorders, Liver disorders, Allergies, Use of alcoholic beverages may enhance toxic effects.

Subchronic toxicity

no data available

Chronic toxicity

<b>Sensitization</b>	This mixture contains hydroquinone which is classified as a dermal sensitizer in some jurisdictions. The 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.
<b>Neurological effects</b>	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).
<b>Chronic toxicity</b>	Avoid repeated exposure. Repeated contact may cause allergic reactions in very susceptible persons. May cause adverse liver effects.
<b>Target Organ Effects</b>	Центральная нервная система, Respiratory system, Eyes, Skin, Kidney, Liver.

CMR Effects

**Carcinogenicity** The European Union classifies hydroquinone, CAS# 123-31-9, as a carcinogen of category 3. Limited evidence of carcinogenicity in animal studies. The significance of these findings for humans has not been determined.

Chemical Name	Argentina	Chile	Venezuela	IARC	ACGIH
Hydroquinone 123-31-9			A3		A3

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

**mutagenic effects** Classified by the European Union as a mutagen of Category 3. Substances which cause concern for man owing to possible mutagenic effects but for which the available information is not adequate for making a satisfactory assessment. In vitro tests have shown mutagenic effects. In vivo tests showed mutagenic effects.

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

**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
Hydroquinone	13.5 mg/L EC50 120 h (Desmodesmus subspicatus) 0.335 mg/L EC50 72 h (Pseudokirchneriella subcapitata)	LC50= 0.044 mg/L Oncorhynchus mykiss 96 h LC50= 0.044 mg/L Pimephales promelas 96 h LC50 0.1-0.18 mg/L Pimephales promelas 96 h LC50= 0.17 mg/L Brachydanio rerio 96 h	EC50 = 0.29 mg/L 48 h (Daphnia magna)
Diethylene glycol		LC50= 75200 mg/L Pimephales promelas 96 h	EC50 = 84000 mg/L 48 h (Daphnia magna)
Sodium carbonate	242 mg/L EC50 120 h (Nitzschia)	LC50= 300 mg/L Lepomis macrochirus 96 h LC50 310 - 1220 mg/L Pimephales promelas 96 h	EC50 = 265 mg/L 48 h (Daphnia magna)
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt	2.6 mg/L EC50 72 h (Desmodesmus subspicatus)	LC50> 300 mg/L Pimephales promelas 96 h LC50 1005-1250 mg/L Lepomis macrochirus 96 h	EC50 > 500 mg/L 48 h (Daphnia magna)

### **Persistence and degradability**

Readily biodegradable.

<b>Degradation</b>						
<b>Type:</b>	<b>Method</b>	<b>Compartment</b>	<b>Sampling time</b>	<b>Units</b>	<b>Result</b>	<b>Units</b>
Chemical Oxygen Demand (COD)					373	g/l
Biochemical Oxygen Demand (BOD)					188	g/l

### **Bioaccumulative potential**

No information available

<b>Chemical Name</b>	<b>log Pow</b>
Hydroquinone	0.5
Diethylene glycol	-1.98
Glycine, N,N-bis[2-[bis(carboxymethyl)amino]ethyl]-, pentasodium salt	-3.05

## 13. DISPOSAL CONSIDERATIONS

**Waste from Residues / Unused Products** Should not be released into the environment. Dispose of as hazardous waste in compliance with local and national regulations.

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

## 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** UN3082  
**Hazard class** 9  
**Proper Shipping Name** Environmentally hazardous substance, liquid, n.o.s.  
**Packing Group** III  
**Classification Code** M6  
**ADR/RID-Labels** 9  
**Special Provisions** 274, 335, 601  
**ADR Hazard Id (Kemmler Number)** 90  
**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9 PG III, (E)  
**Limited quantity** LQ7

### IMDG/IMO

**UN/ID No** UN3082  
**Hazard class** 9  
**Proper Shipping Name** Environmentally hazardous substance, liquid, n.o.s.  
**Packing Group** III  
**Marine Pollutant** NP  
**EmS No.** F-A, S-F  
**Description** UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9 PG III  
**Special Provisions** 179, 274, 335, 909  
**Limited quantity DFDA** 5 L

### ICAO/IATA

<b>UN/ID No</b>	UN3082
<b>Hazard class</b>	9
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Packing Group</b>	III
<b>ERG Code</b>	9L
<b>Special Provisions</b>	A97, A158
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9 PG III
<b>Limited quantity DFDA</b>	30 kg G

### ADN

<b>UN/ID No</b>	UN3082
<b>Hazard class</b>	9
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Packing Group</b>	III
<b>Classification Code</b>	M6
<b>Special Provisions</b>	274, 335, 601
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9, PG III
<b>Limited quantity DFDA</b>	LQ7

### DOT

<b>UN/ID No</b>	UN3082
<b>Hazard class</b>	9
<b>Packing Group</b>	III
<b>Proper Shipping Name</b>	Environmentally hazardous substances, liquid, n.o.s.
<b>Reportable Quantity (RQ)</b>	Hydroquinone: RQ kg= 373.62
<b>Special Provisions</b>	8, 146, 335, IB3, T4, TP1, TP29
<b>Description</b>	UN3082 Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9 PG III, RQ

### TDG

<b>UN/ID No</b>	UN3082
<b>Hazard class</b>	9
<b>Proper Shipping Name</b>	Environmentally hazardous substance, liquid, n.o.s.
<b>Packing Group</b>	III
<b>Description</b>	UN3082, Environmentally hazardous substance, liquid, n.o.s (Hydroquinone), 9 PG III

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

### **International Regulations**

**Mexico - Grade**

Slight risk, Grade 1

16. OTHER INFORMATION
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#### **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**