Carestream

SAFETY DATA SHEET

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

Identification of the substance or mixture

Product name: X-OMAT LX Developer and Replenisher

Product code: 6586382

Use of the Substance/Mixture

Photographic film.
Restricted to professional users.

Company/Undertaking Identification

Supplier

CARESTREAM DO BRASIL COMÉRCIO E SERVIÇOS DE PRODUTOS MÉDICOS LTDA
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For environment, health and safety information, email: WW-EHS@carestreamhealth.com

For other information contact:
0800 891 7554
891 7555

Emergency telephone

CHEMTREC Brazil: +(55)-2139581449

2. HAZARDS IDENTIFICATION

Classification According to Standard ABNT NBR 1475:2012

Classification of the substance or mixture

Acute oral toxicity	Category 4
Skin corrosion/irritation	Category 1 A
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Germ Cell Mutagenicity	Category 2
Reproductive toxicity	Category 2
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

GHS Label elements, including precautionary statements

DANGER

Hazard statements

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H341 - Suspected of causing genetic defects
H351 - Suspected of causing cancer
H410 - Very toxic to aquatic life with long lasting effects

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
P272 - Contaminated work clothing should not be allowed out of the workplace
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
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
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
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
P273 - Avoid release to the environment
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 central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Symbol(s)

C - Corrosive
N - Dangerous for the environment

R-code(s)

Carc. cat. 3;R40 - Muta. cat. 3;R68 - Xn;R22 - C;R35 - R43 - N;R50

Label Elements

Symbol(s) C - Corrosive, N - Dangerous for the environment.

Contains Hydroquinone, Potassium hydroxide
R - phrase(s)
Limited evidence of a carcinogenic effect
Possible risks of irreversible effects
Harmful if swallowed
Causes severe burns
May cause sensitization by skin contact
Very toxic to aquatic organisms

S-phrase(s)
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)
S60 - This material and its container must be disposed of as hazardous waste
S61 - Avoid release to the environment. Refer to special instructions/safety data sheets
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection

Classification According to US OSHA 1910.1200 (HazCom 1994)

DANGER!
Corrosive
Harmful if swallowed
May cause sensitization by skin contact
May cause central nervous system depression
Contains a known or suspected carcinogen
Contains a known or suspected mutagen

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	Weight %
Sodium metabisulfite	10-15
Hydroquinone	5-10
Potassium hydroxide	5-10
Potassium carbonate	1-5
Diethylene glycol	1-5
Tetrasodium EDTA	0.84
3-Pyrazolidinone, 1-phenyl-	0.37

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 Burning. Irritation. Difficulty breathing. Coughing and/ or wheezing. May cause an allergic skin reaction.

Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. Call a physician immediately.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Inhalation	Move to fresh air. Immediate medical attention is required.
Ingestion	Immediate medical attention is required. Do NOT induce vomiting. 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	Contact causes severe skin irritation and possible burns.
Eye contact	Causes burns. Corrosive to the eyes and may cause severe damage including blindness.
Inhalation	Causes burns. Avoid breathing vapors or mists.
Ingestion	Ingestion causes burns of the upper digestive and respiratory tracts.

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

Notes to physician	Treat symptomatically.

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

Specific hazards arising from the chemical

Special Hazard	Thermal decomposition can lead to release of toxic and corrosive gases/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	None known.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Evacuate personnel to safe areas. Avoid contact with skin, eyes and clothing. Keep people away from and upwind of spill/leak.

Advice for emergency responders
For personal protection see section 8

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not allow material to contaminate ground water system. Should not be released into the environment.

Methods and materials for containment and cleaning up

Dike to collect large liquid spills.
Soak up with inert absorbent material. Take up mechanically and collect in suitable container for disposal. Clean contaminated surface thoroughly.

Other information

Refer to protective measures listed in Sections 7 and 8.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling — Ensure adequate ventilation. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. In case of insufficient ventilation, wear suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions — Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

Materials to Avoid — Strong acids. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Chemical Name	ACGIH TLV	Argentina	Brazil	Chile	Venezuela
Sodium metabisulfite	TWA: 5 mg/m³	TWA: 5 mg/m³		TWA: 4 mg/m³	TWA: 5 mg/m³
Hydroquinone	TWA: 1 mg/m³	TWA: 2 mg/m³		TWA: 1.6 mg/m³	TWA: 2 mg/m³
Potassium hydroxide	Ceiling: 2 mg/m³	Ceiling: 2 mg/m³		Ceiling: 2 mg/m³	Ceiling: 2 ppm

Appropriate engineering controls

Engineering Measures — Showers, eyewash stations, and ventilation systems.

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	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. The use of breathing apparatus must comply strictly with the manufacturer's instructions and the regulations governing their choices and uses.
Eye Protection	Safety glasses with side-shields. If splashes are likely to occur, wear: Tightly fitting safety goggles.
Skin and body protection	Impervious gloves. Impervious clothing. Chemical resistant apron.
Hand Protection	Chemical resistant gloves.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid
ph 12.3-13
Flash point: No information available
Boiling point/boiling range No information available

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

Vapor Pressure No information available
Vapor density No information available
Density No information available
Water Solubility No information available
Melting point/range: No information available
Specific Gravity 1.3
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

Hazardous polymerization does not occur.

Conditions to Avoid

Excessive heat.

Materials to Avoid

Strong acids. Strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of toxic/corrosive gases and vapors.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Product Information

Skin contact Contact causes severe skin irritation and possible burns.

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

Inhalation Causes burns. Avoid breathing vapors or mists.

Ingestion Ingestion causes burns of the upper digestive and respiratory tracts.

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium metabisulfite	1131 mg/kg (Rat)	2 g/kg (Rat)	
Hydroquinone	320 mg/kg (Rat)	> 4800 mg/kg (Rat)	
Potassium hydroxide	214 mg/kg (Rat)		
Potassium carbonate	1870 mg/kg (Rat)	>2000 mg/kg (Rabbit)	
Diethylene glycol	12565 mg/kg (Rat)	11890 mg/kg (Rabbit)	
Tetrasodium EDTA	10 g/kg (Rat)		
3-Pyrazolidinone, 1-phenyl-	200 mg/kg (Rat)		

Chemical Name	Other applicable information
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.
Potassium hydroxide	Severe skin irritation Causes eye burns
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.

Aggravated Medical Conditions None known.

Subchronic toxicity

no data available

Chronic toxicity

Sensitization May cause sensitization by skin contact.

Neurological effects May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.

Target Organ Effects Respiratory system, Eyes, Skin, Central nervous system, Gastrointestinal tract (GI), Liver, Kidney.

CMR Effects

Carcinogenicity Contains a known or suspected carcinogen.

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

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.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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
Sodium metabisulfite	48 mg/L EC50 72 h (Desmodesmus subspicatus) 40 mg/L EC50 96 h (Desmodesmus subspicatus)	LC50= 32 mg/L Lepomis macrochirus 96 h	EC50 = 89 mg/L 24 h (Daphnia magna Straus)
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)
Potassium hydroxide		LC50= 80 mg/L Gambusia affinis 96 h	
Diethylene glycol		LC50= 75200 mg/L Pimephales promelas 96 h	EC50 = 84000 mg/L 48 h (Daphnia magna)
Tetrasodium EDTA	1.01 mg/L EC50 72 h (Desmodesmus subspicatus)	LC50= 41 mg/L Lepomis macrochirus 96 h LC50= 59.8 mg/L Pimephales promelas 96 h	EC50 = 610 mg/L 24 h (Daphnia magna)

Persistence and degradability
No information available

Bioaccumulative potential
No information available

Chemical Name	log Pow
Sodium metabisulfite	-3.7
Hydroquinone	0.5
Potassium hydroxide	0.65 0.83
Diethylene glycol	-1.98

Mobility in soil
No information available

13. DISPOSAL CONSIDERATIONS

Waste from Residues / Unused Products	Dispose of in accordance with local regulations.
Contaminated packaging	Do not re-use empty containers. 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	UN1814
Proper Shipping Name	Potassium hydroxide solution
Hazard class	8
Packing Group	II
Classification Code	C5
ADR/RID-Labels	8
ADR Hazard Id (Kemmler Number)	80
Limited Quantity	1 L

IMDG/IMO

UN/ID No	UN1814
Proper Shipping Name	Potassium hydroxide solution
Hazard class	8
Packing Group	II
Marine Pollutant	NP
Marine pollutant	Hydroquinone
EmS No.	F-A, S-B
Limited quantity DFDA	1 L

ICAO/IATA

UN/ID No	UN1814
Proper Shipping Name	Potassium hydroxide solution
Hazard class	8
Packing Group	II
ERG Code	8L
Special Provisions	A3, A803
Limited quantity DFDA	0.5 L

ADN

UN/ID No	UN1814
Proper Shipping Name	Potassium hydroxide solution
Hazard class	8
Packing Group	II
Classification Code	C5
Limited quantity DFDA	1 L

TDG

UN/ID No	UN1814
Proper Shipping Name	Potassium hydroxide, solution
Hazard class	8
Packing Group	II

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

International Regulations

Mexico - Grade Serious risk, Grade 3

Chemical Name	Carcinogen Status	Exposure Limits
Hydroquinone	A3	Mexico: TWA 2 mg/m^3

16. OTHER INFORMATION

Revision Date	2013-06-07
Revision Note	Initial Release

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