Carestream

SAFETY DATA SHEET

Issuing date 2014-05-16 **Revision Date** 2014-03-25 **Version** 1

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

Product name: X-OMAT MX Developer and Replenisher, Part A

Product code: 8344061A

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: Restricted to professional users, Photographic chemical.

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 1
Serious eye damage/eye Irritation	Category 1
Skin Sensitization	Category 1
Germ cell mutagenicity	Category 2
Carcinogenicity	Category 2

Label elements

Emergency Overview

Signal word **Danger**

hazard statements
Causes severe skin burns and eye damage
May cause an allergic skin reaction
Suspected of causing genetic defects
Suspected of causing cancer

Appearance Clear Liquid **Physical state** liquid **Odor** Odorless

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

Precautionary Statement - Response
Immediately call a POISON CENTER or doctor/physician.
Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
Skin
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Ingestion
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

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
May be harmful if swallowed. Very toxic to aquatic life with long lasting effects.

20.39% 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	>60	*
Potassium sulfite 10117-38-1	10117-38-1	15-25	*
Hydroquinone 123-31-9	123-31-9	5-10	*
Potassium carbonate 584-08-7	584-08-7	1-5	*
Diethylene glycol 111-46-6	111-46-6	1-5	*
Sodium borate 1330-43-4	1330-43-4	0.1-1	*
Potassium hydroxide 1310-58-3	1310-58-3	<0.1	*

*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.

Eye contact Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. 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.

Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur. If breathing is difficult, give oxygen.

Ingestion Immediate medical attention is required. Do NOT induce vomiting. Clean mouth with water. 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 and effects, both acute and delayed

Main Symptoms Causes severe skin burns and eye damage. Difficulty breathing. Coughing and/ or wheezing. Central nervous system depression. May cause an allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically. Probable mucosal damage may contraindicate the use of gastric lavage. May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Water spray. Carbon dioxide (CO_2). Alcohol-resistant 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
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous Combustion Products
Carbon oxides. Sulfur oxides.

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 Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. For personal protection see section 8.

Other information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Do not allow material to contaminate ground water system. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

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 Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wear personal protective equipment. Wash thoroughly after handling.

Conditions for safe storage, including any incompatibilities

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

Incompatible products Incompatible with strong acids and bases. Incompatible with 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/m³		TWA: 2 mg/m³	
Diethylene glycol 111-46-6	-	TWA: 10 mg/m³	-	
Sodium borate 1330-43-4	STEL 6 mg/m³ TWA: 2 mg/m³		-	
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m³		-	

Appropriate engineering controls

Engineering Measures Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles. Face-shield.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL AND CHEMICAL PROPERTIES

Physical state	liquid		
Appearance	Clear Liquid	**Odor**	Odorless
Color	clear	**Odor Threshold**	No information available

Property	**Values**	**Remarks/ • Method**
ph	11.8	No information available
Melting point/range:		No information available
Boiling point/boiling range	> 100 °C	No information available
Flash Point		No information available.
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
None under normal use conditions.

Chemical stability
Stable under recommended storage conditions.

Possibility of hazardous reactions
Contact with strong acids liberates sulfur dioxide.

Conditions to Avoid
Keep away from open flames, hot surfaces and sources of ignition.

Incompatible Materials
Incompatible with strong acids and bases. Incompatible with oxidizing agents.

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

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation May cause irritation of respiratory tract.

Eye contact Expected to be severely irritating or corrosive based on components present in formulation and the pH of the overall product.

Skin contact Expected to be severely irritating or corrosive based on components present in formulation and the pH of the overall product. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Avoid contact with skin.

Ingestion May be harmful if swallowed. May cause adverse kidney effects. May cause central nervous system depression. 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	Oral LD50	Dermal LD50	Inhalation LC50
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 carbonate 584-08-7	1870 mg/kg (Rat) Oral LD50 Rat 1870 mg/kg (Source: IUCLID)	>2000 mg/kg (Rabbit)	-
Diethylene glycol 111-46-6	12565 mg/kg (Rat)	11890 mg/kg (Rabbit)	-
Sodium borate 1330-43-4	2660 mg/kg (Rat) Oral LD50 Rat 2660 mg/kg (Source: IUCLID)	2000 mg/kg (Rabbit) Dermal LD50 Rabbit >2000 mg/kg (Source: IUCLID)	-
Potassium hydroxide 1310-58-3	214 mg/kg (Rat) Oral LD50 Rat 214 mg/kg (Source: IUCLID)	-	-

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.
Potassium hydroxide	Severe skin irritation Causes eye burns

Information on toxicological effects

Symptoms Causes burns. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Allergic skin reactions including rash, dermatitis, irritation, and itching.

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

Corrosivity Based on pH, may be corrosive to skin and eyes.

Sensitization 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. May cause sensitization by skin contact.

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 Avoid repeated exposure. Possible risks of irreversible effects.

Target Organ Effects Skin, Eyes, Respiratory system, Central nervous system, Kidney, Liver.

Aspiration Hazard No information available.

Numerical measures of toxicity - Product Information

Unknown acute toxicity 20.39% 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) 3612 mg/kg (ATE)

ATEmix (dermal) 24906 mg/kg (ATE)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates

Hydroquinone 123-31-9	0.335: 72 h Pseudokirchneriella subcapitata mg/L EC50	0.1 - 0.18: 96 h Pimephales promelas mg/L LC50 static 0.044: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 0.044: 96 h Pimephales promelas mg/L LC50 flow-through 0.17: 96 h Brachydanio rerio mg/L LC50		0.29: 48 h Daphnia magna mg/L EC50
Diethylene glycol 111-46-6		75200: 96 h Pimephales promelas mg/L LC50 flow-through		84000: 48 h Daphnia magna mg/L EC50
Sodium borate 1330-43-4	2.6 - 21.8: 96 h Pseudokirchneriella subcapitata mg/L EC50 static 158: 96 h Desmodesmus subspicatus mg/L EC50	340: 96 h Limanda limanda mg/L LC50		1085 - 1402: 48 h Daphnia magna mg/L LC50

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

Bioaccumulation:
No information available.

Chemical Name	log Pow
Hydroquinone 123-31-9	0.5
Diethylene glycol 111-46-6	-1.98
Potassium hydroxide 1310-58-3	0.65 0.83

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Methods Dispose of in accordance with local regulations.

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
Potassium hydroxide 1310-58-3	Toxic Corrosive

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

UN/ID No UN3266
Proper Shipping Name Corrosive liquid, basic, inorganic, n.o.s.

Technical Name	POTASSIUM HYDROXIDE
Hazard class	8
Packing Group	III
Special Provisions	IB3, T7, TP1, TP28
Emergency Response Guide Number	154

TDG

UN/ID No	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM HYDROXIDE
Hazard class	8
Packing Group	III

ICAO/IATA

UN/ID No	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM HYDROXIDE
Hazard class	8
Packing Group	III
ERG Code	8L
Special Provisions	A3, A803

IMDG/IMO

UN/ID No	UN3266
Proper Shipping Name	Corrosive liquid, basic, inorganic, n.o.s.
Technical Name	POTASSIUM HYDROXIDE
Hazard class	8
Packing Group	III
EmS No.	F-A, S-B
Special Provisions	223, 274
Marine pollutant	Hydroquinone

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

15. REGULATORY INFORMATION

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 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):

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Potassium hydroxide	1000 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
Hydroquinone - 123-31-9		Group I		
Diethylene glycol - 111-46-6		Group I		

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	
Potassium hydroxide	1000 lb		

TSCA

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 (5-10)	10/04/1984

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
Diethylene glycol			X		X

Sodium borate	X		X		
Potassium hydroxide	X	X	X		X

International Regulations

Mexico - Grade Serious risk, Grade 3

Chemical Name	Carcinogen Status	Exposure Limits
Hydroquinone	A3	Mexico: TWA 2 mg/m³
Sodium borate		Mexico: TWA 1 mg/m³

16. OTHER INFORMATION

NFPA **Health Hazard** 3 **Flammability** 1 **Instability** -
HMIS **Health Hazard** 3 **Flammability** 1 **Physical Hazard** 0

Revision Date 2014-03-25
Revision Note Update to OSHA GHS SDS format
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 Safety Data Sheet