Carestream

MATERIAL SAFETY DATA SHEET

Issuing date 2013-11-19 **Revision Date** 2013-11-19 **Version** 1

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

Product name: X-OMAT MX Developer and Replenisher, Part B
KODAK Medical X-Ray Liquid Developer and Replenisher, Part B

Product code: 8705584B

Supplier Carestream Health Canada, 8800 Dufferin Street, Suite 201, Vaughan, Ontario, L4K 0C5

For Emergency Health Information call: 800-424-9300

For other information contact: 1-866-792-5011

Product Use: Photographic chemical. Restricted to professional users.

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

COMBUSTIBLE LIQUID AND VAPOR
Corrosive
The product causes burns of eyes, skin and mucous membranes
Harmful if swallowed
Harmful in contact with skin
Harmful by inhalation

Physical state liquid **Odor** Strong Acetic **Color** clear orange

HMIS **Health Hazard** - 3 **Flammability** - 0 **Physical Hazard** - 0

Potential Health Effects

Eyes	Causes burns. Corrosive to the eyes and may cause severe damage including blindness.
Skin	Causes burns.
Inhalation	May be harmful if inhaled. Irritating to mucous membranes. May cause irritation of respiratory tract.
Ingestion	Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts. Can burn mouth, throat, and stomach.

Chronic Effects

Chronic toxicity	Avoid repeated exposure. Possible risks of irreversible effects. Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Contains a known or suspected reproductive toxin.
Aggravated Medical Conditions	Preexisting eye disorders. Skin disorders. Respiratory disorders. Blood disorders. Overexposure may cause female and male reproductive disorder(s).

Environmental hazard	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %
Acetic acid	64-19-7	80-90
3-Pyrazolidinone, 1-phenyl-	92-43-3	10-15

4. FIRST AID MEASURES

General advice Immediate medical attention is required. Show this material safety data sheet to the doctor in attendance.

Eye contact Immediate medical attention is required. In case of eye contact, remove contact lens and 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 Immediate medical attention is required. Move to fresh air. Artificial respiration and/or oxygen may be necessary.

Ingestion Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

Notes to physician Probable mucosal damage may contraindicate the use of gastric lavage. Treat symptomatically.

Protection of First-aiders Use personal protective equipment. Avoid contact with skin, eyes and clothing.

5. FIRE-FIGHTING MEASURES

Flammable Properties Combustible liquid.

Flash point: 38.0 °C (Estimated)
Method

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.

Hazardous Combustion Products Carbon oxides, Hydrocarbons, Aldehydes, Nitrogen oxides (NOx).

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.

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.

NFPA **Health Hazard** - 3 **Flammability** - 2 **Stability** - 0

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not touch or walk through spilled material. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists.

Methods for Containment Prevent further leakage or spillage if safe to do so. Dike to collect large liquid spills.

Methods for cleaning up 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

Advice on safe handling Use only in area provided with appropriate exhaust ventilation. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Wear personal protective equipment. Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. Keep container tightly closed.

Technical measures/Storage conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Acetic acid 64-19-7	STEL 15 ppm TWA: 10 ppm		TWA: 10 ppm TWA: 25 mg/m^3	

Occupational Exposure 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.

Personal Protective Equipment

General Information These recommendations apply to the product as supplied.

Respiratory protection Use only with adequate ventilation. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn.

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

Skin and body protection Impervious 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid
ph < 1
Flash point: 38.0 - 61 °C (Estimated)
Boiling point/boiling range > 100 °C

Odor Strong Acetic
Color clear orange
Autoignition temperature: No information available

Vapor Pressure 24 mbar @ 20 °C
Vapor density 0.6
Density No information available
Water Solubility completely soluble
Melting point/range: No information available
Specific Gravity 1.074
Bulk Density: No information available

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Incompatible products Amines. Metals. Bases. Strong oxidizing agents.

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

Hazardous Decomposition Products None under normal use. Thermal decomposition can lead to release of irritating gases and vapors. Nitrogen oxides (NOx). Carbon oxides.

Hazardous Polymerization Hazardous polymerization does not occur.

Hazardous Reactions None under normal processing.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Product Information

Skin Causes burns.

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

Inhalation May be harmful if inhaled. Irritating to mucous membranes. May cause irritation of respiratory tract.

Ingestion Harmful if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts. Can burn mouth, throat, and stomach.

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg (Rat)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h
3-Pyrazolidinone, 1-phenyl-	200 mg/kg (Rat)		

Chemical Name	Other applicable information
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.
3-Pyrazolidinone, 1-phenyl-	Mild skin irritation Mild skin irritation Repeated exposure Mild eye irritation Did not cause sensitization on laboratory animals. guinea pig Based on repeated-dose ingestion studies in animals, this chemical may cause blood, testicular, and adverse reproductive effects.

Subchronic toxicity No information available

Chronic toxicity Avoid repeated exposure. Possible risks of irreversible effects. Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Contains a known or suspected reproductive toxin.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Sensitization No information available.

Reproductive toxicity Contains ingredients that are suspected reproductive hazards.

Target Organ Effects Respiratory system, Eyes, Skin, Teeth, Blood, Testes.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component Information

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

Acetic acid		LC50= 79 mg/L Pimephales promelas 96 h LC50= 75 mg/L Lepomis macrochirus 96 h	EC50 = 47 mg/L 24 h (Daphnia magna) EC50 = 65 mg/L 48 h (Daphnia magna)

Persistence and degradability Expected to be readily biodegradable

Bioaccumulation: - No information available

Mobility - No information available

Chemical Name	log Pow
Acetic acid	-0.31

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Should not be released into the environment.

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.

DOT

UN/ID No	UN2789
Proper Shipping Name	Acetic acid solution
Hazard class	8
Subsidiary Class	3
Packing Group	II
Special Provisions	A3, A6, A7, A10, B2, IB2, T7, TP2
Emergency Response Guide Number	132

TDG

UN/ID No	UN2789
Proper Shipping Name	Acetic acid solution
Hazard class	8
Subsidiary Class	3
Packing Group	II

ICAO/IATA Transport forbidden

UN/ID No	UN2789
Proper Shipping Name	Acetic acid solution
Hazard class	8
Subsidiary hazard class	3
Packing Group	II

IMDG/IMO

UN/ID No	UN2789
Proper Shipping Name	Acetic acid, solution
Hazard class	8
Subsidiary hazard class	3

Packing Group	II
EmS No.	F-E, S-C

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

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
B3 Combustible liquid
D1B Toxic materials
D2A Very toxic materials
D2B Toxic materials
E Corrosive material

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

16. OTHER INFORMATION

Disclaimer for Label

The data below reflects current legislative requirements whereas the product in your possession may carry a different version of the label depending on the date of manufacture.

DANGER!

- Contains:

Hazardous Components

Chemical Name	CAS-No	Weight %
Acetic acid	64-19-7	80-90
3-Pyrazolidinone, 1-phenyl-	92-43-3	10-15

COMBUSTIBLE LIQUID AND VAPOR. Corrosive. The product causes burns of eyes, skin and mucous membranes. Harmful if swallowed. Harmful in contact with skin. Harmful by inhalation.

Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Ensure adequate ventilation. Wash thoroughly after handling.

Additional information is given in the Material Safety Data Sheet.