

MATERIAL SAFETY DATA SHEET

Issuing date 2013-11-19

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Version 2

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

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

Product code: 8705584C

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: Photographic chemical. Restricted to professional users.

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Corrosive
The product causes burns of eyes, skin and mucous membranes
Toxic if swallowed
Harmful in contact with skin
Harmful by inhalation
May cause respiratory and skin sensitization.

Physical state liquid

Odor Vinegar-like

Color colorless

HMIS

Health Hazard - 3

Flammability - 1

**Physical - 0
Hazard**

Potential Health Effects

Eyes

Skin

Inhalation

Ingestion

Chronic Effects

Chronic toxicity

Causes burns. Corrosive to the eyes and may cause severe damage including blindness.
Harmful in contact with skin. Causes burns. May cause sensitization by skin contact.
Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Harmful by inhalation. May cause irritation of respiratory tract. Although it is known that glutaraldehyde is a respiratory tract irritant and may aggravate pre-existing asthmatic disorders, the supporting data for respiratory sensitization are less conclusive.
Toxic if swallowed. Ingestion causes burns of the upper digestive and respiratory tracts.
Can burn mouth, throat, and stomach.

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.

Aggravated Medical Conditions Preexisting eye disorders. Skin disorders. Respiratory disorders. Allergies.

Environmental hazard Very toxic to aquatic organisms. See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %
Glutaraldehyde	111-30-8	45-55

Non-Hazardous

Chemical Name	CAS-No	Weight %
Water	7732-18-5	45-55

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. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing 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. Rinse mouth.

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

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

5. FIRE-FIGHTING MEASURES

Flash point: > 93.5 °C

Suitable Extinguishing Media Water spray. Carbon dioxide (CO₂). 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 Thermal decomposition can lead to release of irritating gases and vapors.

Specific hazards arising from the chemical

May form peroxides of unknown stability. May cause spontaneous heating and ignition when absorbed on combustible, porous material (e.g. rags, paper, sawdust, cotton, clothing).

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** - 1 **Stability** - 0

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Evacuate personnel to safe areas. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Do not touch or walk through spilled material. Avoid contact with skin, eyes and clothing.
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	Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. 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	Store in a cool, dry area away from potential sources of heat, open flames, sunlight or other chemicals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs	OSHA PEL	Advisory OEL
Glutaraldehyde 111-30-8	Ceiling: 0.05 ppm			

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.
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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid	Odor Vinegar-like
ph 4	Color colorless
Flash point: > 93.5 °C	Autoignition temperature: No information available
Boiling point/boiling range > 100 °C	
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 1.127	
Bulk Density: No information available	

10. STABILITY AND REACTIVITY

Stability	Stable under normal conditions. May form explosive peroxides.
Incompatible products	Strong oxidizing agents. Bases.
Conditions to Avoid	Heat, flames and sparks. Exposure to air or moisture over prolonged periods.
Hazardous Decomposition Products	Carbon oxides.
Hazardous Polymerization	Nonhazardous polymerization may occur. Avoid initiators, accelerators, heat, pressure, contamination. incompatible materials.
Hazardous Reactions	Nonhazardous polymerization may occur. Avoid initiators, accelerators, heat, pressure, contamination. incompatible materials.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Product Information

Skin	Harmful in contact with skin. Causes burns. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Eyes	Causes burns. Corrosive to the eyes and may cause severe damage including blindness.
Inhalation	Harmful by inhalation. May cause irritation of respiratory tract. Although it is known that glutaraldehyde is a respiratory tract irritant and may aggravate pre-existing asthmatic disorders, the supporting data for respiratory sensitization are less conclusive.

Ingestion Toxic 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
Water	90,000 mg/kg (Rat)		
Glutaraldehyde	200 mg/kg (Rat) (50% glutaraldehyde in water)	1749 mg/kg (Rat) (50% glutaraldehyde in water)	0.51 mg/L (4hr Rat)

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.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Sensitization May cause sensitization by inhalation. May cause sensitization by skin contact.

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects Very toxic to aquatic organisms.

Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
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 (Daphnia magna) EC50 0.56 - 1.0 mg/L 48 h (Daphnia magna)

Persistence and degradability No information available

Bioaccumulation: - No information available

Mobility - No information available

Chemical Name	log Pow
Glutaraldehyde	0.22

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	UN3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s.
Technical Name	Glutaraldehyde
Hazard class	8
Packing Group	II
Special Provisions	B2, IB2, T11, TP2, TP27
Emergency Response Guide Number	153

TDG

UN/ID No	UN3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s.
Technical Name	Glutaraldehyde
Hazard class	8
Packing Group	II

ICAO/IATA

UN/ID No	UN3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s.
Technical Name	Glutaraldehyde
Hazard class	8
Packing Group	II
Special Provisions	A3, A803

IMDG/IMO

UN/ID No	UN3265
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s.
Technical Name	Glutaraldehyde
Hazard class	8
Packing Group	II
EmS No.	F-A, S-B
Special Provisions	274
Marine pollutant	Glutaraldehyde

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

15. REGULATORY INFORMATION

"Does not comply" indicates a component is either not on the public inventory or is subject to exemption requirements. If additional information is needed contact Carestream Health.

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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

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 does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

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
Glutaraldehyde - 111-30-8		Group IV		

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping		
Glutaraldehyde	PAIR: 09/30/1991		
Component		U.S. - TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances	
Glutaraldehyde 111-30-8 (45-55)		09/30/1991	

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
Glutaraldehyde	X	X	X		X

International Regulations

Mexico - Grade Serious risk, Grade 3

Chemical Name	Carcinogen Status	Exposure Limits
Glutaraldehyde		Mexico: Ceiling 0.2 ppm Mexico: Ceiling 0.7 mg/m ³

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 %
Glutaraldehyde	111-30-8	45-55

Corrosive. The product causes burns of eyes, skin and mucous membranes. Toxic if swallowed. Harmful in contact with skin. Harmful by inhalation. May cause respiratory and skin sensitization.

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.

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