

MATERIAL SAFETY DATA SHEET

Issuing Date: 2011-03-22

Revision Date: 2011-01-20

Version 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: KODAK X-OMAT MX Fixer and Replenisher, Part 1

Product code: 1012772FIX1

Supplier: Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608
Carestream Health Canada Company, 6 Monogram Place, Suite 200, Toronto, Ontario, M9R0A1

For Emergency Health Information call: 800-424-9300

For other information contact: 800-328-2910

Product Use: Photographic chemical.

2. HAZARDS IDENTIFICATION

CAUTION!

Emergency Overview

May be harmful if swallowed
May cause skin irritation

Physical State: liquid

Odor: Acetic

Color: clear light yellow

HMIS

Health Hazard - 1

Flammability - 1

**Physical - 0
Hazard**

Potential Health Effects

Eyes No known effect. May cause slight irritation.
Skin May cause irritation.
Inhalation No known effect. Not an expected route of exposure.
Ingestion May be harmful if swallowed.

Chronic Effects

Chronic toxicity No known effect based on information supplied

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

Environmental hazard See Section 12 for additional Ecological Information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %
Ammonium sulfite	10196-04-0	1 - 5
Acetic acid	64-19-7	1 - 5
Sodium bisulfite	7631-90-5	1 - 5

Potassium iodide	7681-11-0	< 0.1
Non-Hazardous		
Chemical Name	CAS-No	Weight %
Water	7732-18-5	45 - 50
Ammonium thiosulfate	7783-18-8	35 - 40
Sodium thiosulfate	7772-98-7	5 - 10
Sodium acetate	127-09-3	1 - 5
Citrate, sodium, dihydrate	6132-04-3	1 - 5

4. FIRST AID MEASURES

General advice	IN CASE OF SERIOUS OR PERSISTENT CONDITIONS, CALL A DOCTOR OR EMERGENCY MEDICAL CARE.
Eye contact	Rinse immediately with plenty of water and seek medical advice
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Wash/Decontaminate removed clothing before reuse.
Inhalation	Move to fresh air
Ingestion	If swallowed, do not induce vomiting - seek medical advice.
Notes to physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flash point:	Does not flash
Suitable Extinguishing Media	The product is not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Do not use a solid water stream as it may scatter and spread fire
Hazardous Combustion Products	Ammonia, Chloramine, Thermal decomposition can lead to release of irritating gases and vapors, Carbon oxides, Sulfur oxides, Nitrogen oxides (NOx).

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	Ensure adequate ventilation. For personal protection see section 8.
Methods for Containment	Prevent further leakage or spillage if safe to do so
Methods for cleaning up	Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal

Other information See Section 12 for additional information

7. HANDLING AND STORAGE

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

Technical measures/Storage conditions Keep tightly closed in a dry and cool place. Keep at temperatures between 5°C and 30°C. Store in original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines Ingredients with workplace control parameters

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	
Sodium bisulfite 7631-90-5	TWA: 5 mg/m ³			
Potassium iodide 7681-11-0	TWA: 0.01 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 Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles.

Skin and body protection Wear suitable protective 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	

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: liquid
pH: 5.4
Flash point: Does not flash
Boiling Point/Range: > 100 °C / 212 °F
Odor: Acetic
Color: clear light yellow
Autoignition temperature: No information available

Vapor pressure: 24 hPa @ 20 °C
Vapor density: 0.6
Volatile organic compounds (VOC) content 45 - 50 %
Water Solubility: completely soluble
Melting point/range: No information available
Density: 1.31

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions

Incompatible products Acids. Strong bases. Sodium hypochlorite. Halogenated compounds. Oxidizing agents. Contact with strong acids liberates sulfur dioxide. Contact with strong bases liberates ammonia.

Conditions to Avoid Temperatures above 180°C.

Hazardous Decomposition Products Ammonia. g/L. Thermal decomposition can lead to release of irritating gases and vapors. Sulfur oxides. Nitrogen oxides (NOx). Carbon oxides.

Hazardous Polymerization Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity Product Information

Skin contact Mild skin irritation.

Eye contact No known effect. May cause slight irritation.

Inhalation No known effect. Not an expected route of exposure.

Ingestion May be harmful if swallowed.

Acute Toxicity Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	90 mL/kg (Rat)		
Ammonium thiosulfate	> 2000 mg/kg (Rat)		
Sodium thiosulfate	5000 mg/kg (Rat)		
Ammonium sulfite	2500 mg/kg (Rat)		
Sodium acetate	3530 mg/kg (Rat)	10 g/kg (Rabbit)	30 g/m ³ (Rat) 1 h
Acetic acid	3310 mg/kg (Rat)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h
Sodium bisulfite	1420 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 occurred, and the ventilation rate in the room
Sodium bisulfite	No skin irritation No eye irritation
Ammonium thiosulfate	No skin irritation No eye irritation

Subchronic toxicity No information available

Carcinogenicity No information available.

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: The environmental impact of this product has not been fully investigated

Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Sodium thiosulfate		LC50= 24000 mg/L Gambusia affinis 96 h		
Sodium acetate				EC50 > 1000 mg/L 48 h
Acetic acid		LC50= 79 mg/L Pimephales promelas 96 h LC50= 75 mg/L Lepomis macrochirus 96 h		EC50 = 47 mg/L 24 h EC50 = 65 mg/L 48 h
Sodium bisulfite		LC50= 240 mg/L Gambusia affinis 96 h		EC50 = 119 mg/L 48 h

Persistence and degradability: Readily biodegradable.

Bioaccumulation: No information available

Mobility: No information available

Chemical Name	log Pow
Acetic acid	-0.31

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13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Dispose of in accordance with local regulations

Contaminated packaging Dispose of in accordance with local regulations

US EPA Waste Number No information available

Chemical Name	California Hazardous Waste Status
Acetic acid	Toxic Corrosive Ignitable

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 Not regulated

TDG Not regulated

ICAO/IATA Not regulated

IMDG/IMO Not regulated

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

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	-
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	-
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

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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	CAS-No	Weight %	SARA 313 - Threshold Values %
Ammonium sulfite	10196-04-0	2.76	1.0
Ammonium thiosulfate	7783-18-8	38.96	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	No
Chronic Health Hazard	No
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
Ammonium sulfite	5000 lb			X
Acetic acid	5000 lb			X
Sodium bisulfite	5000 lb			X

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Acetic acid	64-19-7	1 - 5		Group II		

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Ammonium sulfite	5000 lb	
Acetic acid	5000 lb	
Sodium bisulfite	5000 lb	

TSCA

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping
Sodium bisulfite	PAIR: 01/26/1994

Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(d) - 716.120(a) - Health and Safety Reporting - List of Substances
Sodium bisulfite	01/26/1994

U.S. State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

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U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ammonium sulfite	X	X	X		
Acetic acid	X	X	X		X
Sodium bisulfite	X	X	X		X

International Regulations

Mexico - Grade No information available

Chemical Name	Carcinogen Status	Exposure Limits
Acetic acid		Mexico: TWA 10 ppm Mexico: TWA 25 mg/m ³ Mexico: STEL 15 ppm Mexico: STEL 37 mg/m ³

Canada

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

Non-controlled

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.

CAUTION!

Contains:

Hazardous Components

Chemical Name	CAS-No	Weight %
Ammonium sulfite	10196-04-0	1 - 5
Acetic acid	64-19-7	1 - 5
Sodium bisulfite	7631-90-5	1 - 5
Potassium iodide	7681-11-0	< 0.1

May be harmful if swallowed. May cause skin irritation.

Do not handle or use until safety precautions in Material Safety Data Sheet (MSDS) have been read and understood. Since emptied containers retain product residue, follow label warnings even after container is emptied.

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