Carestream

MATERIAL SAFETY DATA SHEET.

Issuing date 2011-09-21 **Revision Date** 2011-09-21 **Version** 3

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

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

Product code: 1241355A

Supplier Carestream Health, Inc., 150 Verona Street, Rochester, New York 14608.

For Emergency Health Information call: 800-424-9300.

For other information contact: 800-328-2910.

Product Use: Photographic chemical.

2. HAZARDS IDENTIFICATION

Warning!.

Emergency Overview

May cause skin irritation
May be harmful if swallowed

Physical state liquid. **Odor** Acetic. **Color** light yellow.

HMIS **Health Hazard** - 1 **Flammability** - 1 **Physical Hazard** - 0

Potential Health Effects

Eyes	May cause irritation.
Skin	May cause irritation.
Inhalation	Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea. Contact with strong acids liberates sulfur dioxide. May cause irritation of respiratory tract.
Ingestion	May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Chronic Effects

Chronic toxicity	No known effect based on information supplied.
Aggravated Medical Conditions	None known.
Environmental hazard	See Section 12 for additional Ecological Information.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %
Ammonium thiosulfate	7783-18-8	30 - 40
Ammonium sulfite	10196-04-0	1 - 5
Acetic acid	64-19-7	1 - 5
Citrate, sodium, dihydrate	6132-04-3	1 - 5
Sodium bisulfite	7631-90-5	1 - 5

Non-Hazardous

Chemical Name	CAS-No	Weight %
Water	7732-18-5	45 - 50
Sodium thiosulfate	7772-98-7	5 - 10
Sodium acetate	127-09-3	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, also under the eyelids, for at least 15 minutes. Get medical attention immediately if symptoms occur.

Skin contact Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Get medical attention immediately if symptoms occur.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.

Ingestion If swallowed, call a poison control center or doctor immediately. Do not induce vomiting without medical advice. Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.

Notes to physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point: Does not flash.

Suitable Extinguishing Media Use CO2, dry chemical, or foam.

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

Hazardous Combustion Products Carbon oxides, Nitrogen oxides (NOx), Sulfur oxides.

Specific hazards arising from the chemical
Dried product residue can act as a reducing agent. Reacts violently with oxidizing materials. 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 For personal protection see section 8. Ensure adequate ventilation.

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 container tightly closed in a dry and well-ventilated place.

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	
Sodium bisulfite 7631-90-5	TWA: 5 mg/m^3			

Occupational Exposure Controls

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

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.

Other Protective Equipment Ensure that eyewash stations and safety showers are close to the workstation location.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid.
ph . 5.4
Flash point: Does not flash.
Boiling point/boiling range . >. 100 °C. / 212 °F.

Odor Acetic.
Color light yellow.
Autoignition temperature: No information available.

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

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

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

Conditions to Avoid Heat, flames and sparks. Take precautionary measures against static discharges.

Hazardous Decomposition Products Ammonia. Chloramine. Sulfur oxides. Nitrogen oxides (NOx).

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity Product Information.

Skin May cause irritation.

Eyes May cause irritation.

Inhalation Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea. Contact with strong acids liberates sulfur dioxide. May cause irritation of respiratory tract.

Ingestion May be harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

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
Ammonium thiosulfate	No skin irritation No eye irritation
Sodium thiosulfate	Mild skin irritation
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
Sodium bisulfite	No skin irritation No eye irritation

Subchronic toxicity No information available.

Carcinogenicity Contains no ingredient listed as a carcinogen.

Sensitization May cause sensitization of susceptible persons.

Target Organ Effects Eyes, Skin, Respiratory system.

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 daphnia and other aquatic invertebrates
Sodium thiosulfate		LC50= 24000 mg/L Gambusia affinis 96 h	
Sodium acetate			EC50 > 1000 mg/L 48 h (Daphnia magna)
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)

Sodium bisulfite		LC50= 240 mg/L Gambusia affinis 96 h	EC50 = 119 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 Dispose of in accordance with local regulations.

Contaminated packaging 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 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

"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 Does not comply
DSL/NDSL Does not comply
EINECS/ELINCS Complies
ENCS Complies
IECSC Complies
KECL Does not comply
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 %
Ammonium thiosulfate - 7783-18-8	1.0
Ammonium sulfite - 10196-04-0	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes.
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)
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Chemical Name	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Acetic acid - 64-19-7		Group II		

CERCLA
.

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

TSCA
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Chemical Name	U.S. - TSCA (Toxic Substances Control Act) - Section 8(a) - Chemical-Specific Reporting and Recordkeeping
Water	Partially exempt chemical substance termed Petroleum Process Stream
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.

U.S. State Right-to-Know Regulations
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Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ammonium thiosulfate	X		X		
Ammonium sulfite	X	X	X		
Acetic acid	X	X	X		X
Sodium bisulfite	X	X	X		X

International Regulations

Mexico - Grade Slight risk, Grade 1.

Chemical Name	Carcinogen Status	Exposure Limits
Acetic acid		Mexico: TWA 10 ppm Mexico: TWA 25 mg/m³ Mexico: STEL 15 ppm Mexico: STEL 37 mg/m³

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.

Warning!.

Contains:.

Hazardous Components

Chemical Name	CAS-No	Weight %
Ammonium thiosulfate	7783-18-8	30 - 40
Ammonium sulfite	10196-04-0	1 - 5
Acetic acid	64-19-7	1 - 5
Citrate, sodium, dihydrate	6132-04-3	1 - 5
Sodium bisulfite	7631-90-5	1 - 5

May cause skin irritation. May be harmful if swallowed.

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.