

MATERIAL SAFETY DATA SHEET

Issuing date 2011-10-07

Revision Date 2011-10-07

Version 2

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

Product name: KODAK X-OMAT MX Fixer and Replenisher, Part 2

Product code: 1012772FIX2

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

<u>Emergency Overview</u>			
Causes eye irritation May cause skin irritation May cause irritation of respiratory tract			
Physical state liquid	Odor Odorless	Color clear colorless	
HMIS	Health Hazard - 2*	Flammability - 1	Physical - 0 Hazard
<u>Potential Health Effects</u>			
Eyes	Irritating to eyes.		
Skin	May cause irritation.		
Inhalation	May cause irritation of respiratory tract.		
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.		
Chronic Effects			
Chronic toxicity	Repeated inhalation of vapors may cause irritation of respiratory tract or bronchitis.		
Aggravated Medical Conditions	Respiratory disorders.		
Environmental hazard	See Section 12 for additional Ecological Information.		

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous

Chemical Name	CAS-No	Weight %
Aluminum sulfate	10043-01-3	10-15
Sulfuric acid	7664-93-9	1-5

Non-Hazardous

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Chemical Name	CAS-No	Weight %
Water	7732-18-5	>80

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 if irritation persists.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician . In the case of skin irritation or allergic reactions see a physician.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Get medical attention immediately if symptoms occur.
Ingestion	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. Never give anything by mouth to an unconscious person. Get medical attention immediately if symptoms occur.
Notes to physician	Treat symptomatically.
Protection of First-aiders	Use personal protective equipment.

5. FIRE-FIGHTING MEASURES

Flash point:	> 93.4 °C
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	Hazardous decomposition products due to incomplete combustion.

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 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
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³		TWA: 1 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 When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 or applicable federal/provincial requirements must be followed whenever workplace conditions warrant respirator use.

Eye/Face Protection Tightly fitting safety goggles. Chemical safety glasses with sideshields.

Skin and body protection Impervious clothing.

Hand Protection Impervious gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state liquid

ph < 1

Flash point: > 93.4 °C

Boiling point/boiling range > 100 °C

Odor Odorless

Color clear colorless

Autoignition temperature: No information available

Vapor Pressure 24 mbar @ 20 °C

Vapor density 0.6

Density No information available

Volatile organic compounds (VOC) content 80 - 85

Water Solubility completely soluble

Melting point/range: No information available

Specific Gravity 1.17

Bulk Density: No information available

10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.
Incompatible products Bases.
Conditions to Avoid Heat, flames and sparks. Take precautionary measures against static discharges.
Hazardous Decomposition Products Sulfur oxides.
Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute toxicity - Product Information

Skin May cause irritation.
Eyes Irritating to eyes.
Inhalation May cause irritation of respiratory tract.
Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Acute toxicity - Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	90 mL/kg (Rat)		
Aluminum sulfate	> 5000 mg/kg (Rat)		
Sulfuric acid	2140 mg/kg (Rat)		347 ppm (Rat) 1 h 510 mg/m ³ (Rat) 2 h

Chemical Name	Other applicable information
Aluminum sulfate	Severe eye irritation No skin irritation Cell transformation assay: negative Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea
Sulfuric acid	International Agency for Research on Cancer (IARC) has determined that occupational exposure to strong inorganic mists or vapours containing sulfuric acid is carcinogenic to humans. Acute overexposure to extremely high airborne concentrations of respiratory irritants has been associated with development of an asthmalike reactive airways syndrome (RADS) in susceptible individuals. The following exposure effects are based on pH of the solution, concentration of the acid, and a review of the literature.

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Subchronic toxicity No information available

Chronic toxicity Repeated inhalation of vapors may cause irritation of respiratory tract or bronchitis.

Carcinogenicity Exposure to strong inorganic mists containing sulfuric acid may cause cancer by inhalation.

Chemical Name	ACGIH	IARC	NTP	OSHA
Sulfuric acid	A2	1	Known	X

Target Organ Effects Eyes, Respiratory system, Lungs, Gastrointestinal tract (GI).

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects May be harmful to aquatic organisms.

Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
Aluminum sulfate		LC50= 100 mg/L Carassius auratus 96 h LC50= 37 mg/L Gambusia affinis 96 h	EC50 = 136 mg/L 15 min (Daphnia magna)
Sulfuric acid		LC50> 500 mg/L Brachydanio rerio 96 h	EC50 = 29 mg/L 24 h (Daphnia magna)

Persistence and degradability No information available

Bioaccumulation: - No information available

Mobility - No information available

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.

Proper Shipping Name Corrosive liquid, acidic, inorganic, n.o.s.

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DOT

Description	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Aluminum sulfate), 8, PG III, LIMITED QUANTITY
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s.
Hazard class	8
UN/ID No	UN3264
Packing Group	III

TDG

Description	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Aluminum sulfate), 8, PG III, LIMITED QUANTITY
UN/ID No	UN3264
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s.
Hazard class	8
Packing Group	III
UN/ID No	UN3264

ICAO/IATA

UN/ID No	UN3264
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s.
Hazard class	8
Packing Group	III
ERG Code	8L
Special Provisions	A3
Description	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Aluminum sulfate), 8, PG III

IMDG/IMO

Hazard class	8
UN/ID No	UN3264
Packing Group	III
EmS No.	F-A, S-B
Special Provisions	223, 274
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s.
Description	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Aluminum sulfate), 8, PG III, LIMITED QUANTITY

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

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TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDL - 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 %
Sulfuric acid - 7664-93-9	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

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Aluminum sulfate	5000 lb			X
Sulfuric acid	1000 lb			X

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

This product does not contain any substances regulated as hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act Amendments of 1990.

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	SARA Product RQ
Aluminum sulfate	5000 lb		
Sulfuric acid	1000 lb	1000 lb	

TSCA

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

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Sulfuric acid	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Aluminum sulfate	X	X	X		
Sulfuric acid	X	X	X	X	X

International Regulations

Mexico - Grade Moderate risk, Grade 2

Chemical Name	Carcinogen Status	Exposure Limits
Aluminum sulfate		Mexico: TWA 2 mg/m ³
Sulfuric acid	A2	Mexico: TWA 1 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.



- Contains:

Hazardous Components

Chemical Name	CAS-No	Weight %
Aluminum sulfate	10043-01-3	10-15
Sulfuric acid	7664-93-9	1-5

Causes eye irritation. May cause skin irritation. May cause irritation of respiratory tract.

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