

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

Identification of the substance or preparation

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

Product code: 6585038FIX1

Pure substance/preparation Preparation

Use of the Substance/Preparation

Photographic chemical.
Restricted to professional users

Company/Undertaking Identification

Supplier: CARESTREAM o Brasil Comercio e Servicos de Produtos Medicos Ltda
Rodovia Presidente Dutra Km 154,7, Prédio nº 6 - 1º andar, Parte A, São José dos Campos, São Paulo, CEP 12.240-420

For further information, please contact:

For environment, health and safety information, email: WW-EHS@carestreamhealth.com

For other information contact: 800-328-2910

Emergency telephone

+1(703)527-3887

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Acute Oral Toxicity	Category 5
Skin Corrosion/Irritation	Category 3

GHS Label elements, including precautionary statements
WARNING

Hazard Statements

H303 - May be harmful if swallowed
H316 - Causes mild skin irritation

Precautionary Statements

P312 - Call a POISON CENTER or doctor/ physician if you feel unwell
P332 + P313 - If skin irritation occurs: Get medical advice/ attention

Other hazards which do not result in classification

Dried product residue can act as a reducing agent
Drying of this product on clothing or combustible materials may cause fire

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC-No	Weight %	CAS-No	Classification (67/548)	EU - GHS Substance Classification
Ammonium thiosulfate	231-982-0	35 - 40	7783-18-8	-	
Sodium thiosulfate	231-867-5	5 - 10	7772-98-7	-	
Acetic acid	200-580-7	1 - 5	64-19-7	R10 C; R35	Skin Corr. 1A (H314) B Flam. Liq. 3 (H226) B
Sodium bisulfite	231-548-0	1 - 5	7631-90-5	Xn; R22 R31	Acute Tox. 4 (H302) B

For the full text of the R-phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of necessary 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.

Most important symptoms/effects, acute and delayed

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.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	Treat symptomatically
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5. FIRE-FIGHTING MEASURES

Flash point: See chapter 9. PHYSICAL AND CHEMICAL PROPERTIES

Suitable Extinguishing Media

Suitable Extinguishing Media

The product is not flammable. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which shall not be used for safety reasons

Do not use a solid water stream as it may scatter and spread fire

Specific hazards arising from the chemical

Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

Thermal decomposition can lead to release of irritating gases and vapors. 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).

Special protective actions for fire-fighters

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus and protective suit

Other information

Other information

Cool containers / tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Do not touch or walk through spilled material. For personal protection see section 8.

Environmental precautions

Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. Try to prevent the material from entering drains or water courses.

Methods and materials for containment and cleaning up

Dam up. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Other information

See Section 12 for additional Ecological information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

When using, do not eat, drink or smoke. For personal protection see section 8.

Prevention of fire and explosion

Keep from contact with oxidizing materials, highly oxygenated or halogenated solvents, organic compounds containing reducible functional groups Drying of this product on clothing or combustible materials may cause fire

Conditions for safe storage, including any incompatibilities

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.

Materials to Avoid Acids. Strong bases. Sodium hypochlorite. Halogenated compounds. Oxidizing agents. Contact with strong acids liberates sulfur dioxide. Contact with strong bases liberates ammonia.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits Ingredients with workplace control parameters

Chemical Name	Argentina	Brazil	Chile	Venezuela
Acetic acid	TWA: 10 ppm STEL: 15 ppm	TWA: 8 ppm TWA: 20 mg/m ³	TWA: 8 ppm TWA: 20 mg/m ³ STEL: 15 ppm STEL: 37 mg/m ³	TWA: 10 ppm STEL: 15 ppm
Sodium bisulfite	TWA: 5 mg/m ³			TWA: 5 mg/m ³

Appropriate engineering 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.

Individual protection measures, such as personal protective equipment (PPE)

Personal Protective Equipment

General Information

If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied. None under normal use conditions. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Respiratory protection

Eye Protection

If splashes are likely to occur, wear: Tightly fitting safety 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	

Hygiene measures Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

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

Reactivity

No dangerous reaction known under conditions of normal use

Chemical stability

Stable under recommended storage conditions

Possibility of hazardous reactions

None under normal processing

Conditions to Avoid

Temperatures above 180°C.

Materials to Avoid

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

Hazardous Decomposition Products

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

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
Ammonium thiosulfate	> 2000 mg/kg (Rat)		
Sodium thiosulfate	5000 mg/kg (Rat)		
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

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

Subchronic toxicity

no data available

Chronic toxicity

Sensitization

No information available

Neurological effects

No information available

Target Organ Effects

Respiratory system, Eyes, Skin, Teeth.

CMR Effects

Carcinogenicity No information available.

IARC: (International Agency for Research on Cancer)
ACGIH: (American Conference of Governmental Industrial Hygienists)

12. ECOLOGICAL INFORMATION

Ecotoxicity

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

Acute Aquatic Toxicity Product Information

No information available

Acute Aquatic Toxicity 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		
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.

Bioaccumulative potential

No information available

Chemical Name	log Pow
Acetic acid	-0.31

13. DISPOSAL CONSIDERATIONS

Waste from Residues / Unused Products

Dispose of in accordance with local regulations

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

ADR/RID Not regulated

IMDG/IMO Not regulated

ICAO/IATA Not regulated

ADN Not regulated

DOT Not regulated

TDG Not regulated

MEX Not regulated

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

15. REGULATORY INFORMATION

International Inventories

EINECS/ELINCS	Complies
TSCA	-
DSL/NDSL	-
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

16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R10 - Flammable

R22 - Harmful if swallowed

R31 - Contact with acids liberates toxic gas

R35 - Causes severe burns

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

End of Material Safety Data Sheet