

### 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 2**

**Product code: 6585038FIX2**

**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](mailto: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 Inhalation Toxicity - Dusts and Mists	Category 5
Skin Corrosion/Irritation	Category 3
Serious Eye Damage/Eye Irritation	Category 1
Corrosive to Metals	Category 1

#### GHS Label elements, including precautionary statements



**DANGER**

### Hazard Statements

H316 - Causes mild skin irritation  
H318 - Causes serious eye damage  
H333 - May be harmful if inhaled  
H290 - May be corrosive to metals

### Precautionary Statements

P234 - Keep only in original container  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection  
P332 + P313 - If skin irritation occurs: Get medical advice/ attention  
P304 + P312 - IF INHALED: Call a POISON CENTER or doctor/ physician if you feel unwell  
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/ physician  
P390 - Absorb spillage to prevent material damage  
P406 - Store in corrosive resistant polyethylene container with a resistant inliner

### Other hazards which do not result in classification

No information available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC-No	Weight %	CAS-No	Classification (67/548)	EU - GHS Substance Classification
Aluminum sulfate	233-135-0	10 - 15	10043-01-3	Xi;R41	Eye Dam. 1 (H318)
Sulfuric acid	231-639-5	1 - 5	7664-93-9	C; R35	Skin Corr. 1A (H314) 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

<b>General advice</b>	Immediate medical attention is required. Do not breathe vapors, mist or gas. Do not get in eyes, on skin, or on clothing. Show this material safety data sheet to the doctor in attendance.
<b>Eye contact</b>	Call a physician immediately. Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Inhalation</b>	Move to fresh air. If symptoms persist, call a physician.
<b>Ingestion</b>	Drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Clean mouth with water. Consult a physician.
<b>Protection of First-aiders</b>	Use personal protective equipment.

### Most important symptoms/effects, acute and delayed

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<b>Skin contact</b>	May cause irritation. Prolonged or repeated contact may dry skin and cause irritation.
<b>Eye contact</b>	Risk of serious damage to eyes.
<b>Inhalation</b>	May be harmful if inhaled. Avoid breathing vapors or mists.
<b>Ingestion</b>	Ingestion may cause irritation to mucous membranes.

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

**Notes to physician** Treat symptomatically.

**5. FIRE-FIGHTING MEASURES**

**Flash point:** See chapter 9. PHYSICAL AND CHEMICAL PROPERTIES

Suitable Extinguishing Media

**Suitable Extinguishing Media** The product is not flammable. Cool containers / tanks with water spray.

**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.

Special protective actions for fire-fighters

**Special protective equipment for fire-fighters** Wear self contained breathing apparatus for fire fighting if necessary.

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 breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Use personal protective equipment. Ensure adequate ventilation. Keep people away from and upwind of spill/leak.

Environmental precautions

Try to prevent the material from entering drains or water courses. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up

Dam up. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Clean contaminated surface thoroughly.

### Other information

See Section 12 for additional Ecological information.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Do not breathe vapors or spray mist. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Prevent the formation of vapors, mists and aerosols.

**Technical measures** Metal containers must be lined.

### Conditions for safe storage, including any incompatibilities

**Technical measures/Storage conditions** Keep away from direct sunlight. Keep containers tightly closed in a cool, well-ventilated place. Keep at temperatures between 5°C and 30°C.

**Materials to Avoid** Bases. Metals.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **Exposure limits**

Chemical Name	Argentina	Brazil	Chile	Venezuela
Aluminum sulfate	TWA: 2 mg/m <sup>3</sup>		TWA: 1.6 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup>
Sulfuric acid	TWA: 1 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>	TWA: 8 ppm TWA: 12 mg/m <sup>3</sup>	TWA: 0.8 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup> STEL: 3 mg/m <sup>3</sup>

### 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.

##### **Respiratory protection**

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.

##### **Eye Protection**

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

**Skin and body protection**  
**Hand Protection**

Long sleeved clothing. Apron. Impervious gloves. Wear suitable protective clothing.  
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

<b>In case of full contact:</b>			
<b>Glove material</b>	<b>Glove thickness</b>	<b>Break through time</b>	<b>Remarks</b>
Nitrile rubber	>= 0.38 mm	> 480 min	
Neoprene	>= 0.65 mm	> 240 min	
butyl-rubber	>= 0.36 mm	> 480 min	

**Hygiene measures**

When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. Provide regular cleaning of equipment, work area and clothing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Physical State:** liquid

**pH:** < 1

**Flash point:** > 93.500 °C

**Boiling Point/Range:** > 100 °C / 212 °F

**Odor:** Odorless

**Color:** clear colorless

**Autoignition temperature:** No information available

**Vapor pressure:** 24 hPa @ 20 °C

**Vapor density:** 0.6

**Volatile organic compounds (VOC) content** 80 - 85 %

**Water Solubility:** completely soluble

**Melting point/range:** No information available

**Density:** 1.17

**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

No information available.

Materials to Avoid

Bases. Metals.

Hazardous Decomposition Products

Sulfur oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity Product Information

<b>Skin contact</b>	May cause irritation. Prolonged or repeated contact may dry skin and cause irritation.
<b>Eye contact</b>	Risk of serious damage to eyes.
<b>Inhalation</b>	May be harmful if inhaled. Avoid breathing vapors or mists.
<b>Ingestion</b>	Ingestion may cause irritation to mucous membranes.

### Acute Toxicity Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Aluminum sulfate	> 5000 mg/kg ( Rat )		
Sulfuric acid	2140 mg/kg ( Rat )		347 ppm ( Rat ) 1 h 510 mg/m <sup>3</sup> ( 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 base, and a review of the literature.

**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** Exposure to strong inorganic mists containing sulfuric acid may cause cancer by inhalation. This product is not sprayed and will not generate a mist therefore the cancer hazard by inhalation is not relevant for this product.

Chemical Name	Argentina	Chile	Venezuela	IARC	ACGIH
Sulfuric acid 7664-93-9	A2		A2	1	A2

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
Aluminum sulfate		LC50= 100 mg/L Carassius auratus 96 h LC50= 37 mg/L Gambusia affinis 96 h		EC50 = 136 mg/L 15 min
Sulfuric acid		LC50> 500 mg/L Brachydanio rerio 96 h		EC50 = 29 mg/L 24 h

### **Persistence and degradability:**

No information available

### **Bioaccumulative potential**

No information available

## 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

<b>UN/ID No</b>	UN3264
<b>Hazard class</b>	8
<b>Proper Shipping Name</b>	Corrosive liquid, acidic, inorganic, n.o.s.
<b>Packing Group</b>	III
<b>Classification Code</b>	C1
<b>ADR/RID-Labels</b>	8
<b>Special Provisions</b>	274
<b>ADR Hazard Id (Kemmler Number)</b>	80
<b>Description</b>	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Aluminum sulfate), 8, PG III, (E), LIMITED QUANTITY
<b>Limited quantity</b>	LQ7

IMDG/IMO

<b>UN/ID No</b>	UN3264
<b>Hazard class</b>	8
<b>Proper Shipping Name</b>	Corrosive liquid, acidic, inorganic, n.o.s.
<b>Packing Group</b>	III
<b>Marine Pollutant</b>	NP
<b>EmS No.:</b>	F-A, S-B
<b>Description</b>	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Aluminum sulfate), 8, PG III, LIMITED QUANTITY
<b>Special Provisions</b>	223, 274
<b>Limited quantity</b>	5 L

ICAO/IATA

<b>UN/ID No</b>	UN3264
<b>Hazard class</b>	8
<b>Proper Shipping Name</b>	Corrosive liquid, acidic, inorganic, n.o.s.
<b>Packing Group</b>	III
<b>ERG Code</b>	8L
<b>Special Provisions</b>	A3
<b>Description</b>	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Aluminum sulfate), 8, PG III
<b>Limited quantity</b>	1 L

ADN

	Not regulated
<b>UN/ID No</b>	UN3264
<b>Hazard class</b>	8
<b>Proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s.
<b>Packing Group</b>	III
<b>Classification Code</b>	C1
<b>Special Provisions</b>	274
<b>Description</b>	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid), 8, PG III, LIMITED QUANTITY
<b>Limited quantity</b>	LQ7

DOT

<b>Description</b>	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, Aluminum sulfate), 8, PG III, (E), LIMITED QUANTITY
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TDG

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

MEX

	Not regulated
<b>UN/ID No</b>	UN3264
<b>Hazard class</b>	8
<b>Proper shipping name</b>	Corrosive liquid, acidic, inorganic, n.o.s.
<b>Packing Group</b>	III
<b>Description</b>	UN3264, Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid), 8, PG III, LIMITED QUANTITY

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

## 15. REGULATORY INFORMATION

### International Inventories

<b>EINECS/ELINCS</b>	Complies
<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	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

R41 - Risk of serious damage to eyes

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**