1. Identification of the substance/mixture and of the company/undertaking

Product name: KODAK RP X-OMAT LO Fixer and Replenisher, Part A

Product code: 6610018 - Part A

Supplier: Carestream Health Canada Company, 6 Monogram Place, Suite 200, Toronto, Ontario, M9R 0A1

MSDS Prepared by: Health, Safety and Environment, Carestream Health, Inc., Rochester, New York, 14608.

For Emergency Health Information call: 1-800-424-9300.

For Other Information, call the Marketing and Distribution Center in Your Area.

Synonyms: None.

Product Use: photographic processing chemical
For industrial use only.

2. Hazards identification

CONTAINS: Ammonium bisulphite (10192-30-0), Sodium bisulphite (7631-90-5), Acetic acid (64-19-7), Ammonium thiosulphate (7783-18-8), Sodium thiosulphate (7772-98-7)

CAUTION!
DRIED PRODUCT RESIDUE CAN ACT AS A REDUCING AGENT.
MAY BE HARMFUL IF SWALLOWED.

NFPA Hazard Ratings: Health - 3, Flammability - 1, Instability - 0

NOTE: NFPA 704 (2007) hazard indexes involves data review and interpretation that may vary among companies. It is intended only for rapid, general identification of the magnitude of the potential hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight %	Components (CAS-No.)
45 - 50	Water (7732-18-5)
35 - 40	Ammonium thiosulphate (7783-18-8)
1 - 5	Sodium thiosulphate (7772-98-7)
1 - 5	Acetic acid (64-19-7)
1 - 5	Ammonium bisulphite (10192-30-0)
1 - 5	Ammonium acetate (631-61-8)

0.1 - 1 Sodium bisulphite (7631-90-5)

4. First aid measures

Inhalation: If inhaled, move to fresh air. Get medical attention if symptoms occur.

Eyes: Any material that contacts the eye should be washed out immediately with water. Get medical attention if symptoms occur.

Skin: Wash off with soap and water. Get medical attention if symptoms occur.

Ingestion: If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

5. Fire-fighting measures

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Flush with plenty of water.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.

Hazardous Combustion Products: Carbon oxides, nitrogen oxides (NOx), sulfur oxides, (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: 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).

6. Accidental release measures

Methods for cleaning up: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Collect in a noncombustible container for prompt disposal. Clean surface thoroughly to remove residual contamination.

For Large Spills: Flush with plenty of water.

7. Handling and storage

Personal precautions: Avoid breathing mist or vapour at concentrations greater than the exposure limits. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep from contact with oxidizing materials, highly oxygenated or halogenated solvents, organic compounds containing reducible functional groups. Remove and wash contaminated clothing promptly.

Storage: Store in original container. Keep container tightly closed to prevent the loss of water. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls / personal protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Acetic acid	ACGIH	time weighted average	10 ppm
	ACGIH	Short term exposure limit	15 ppm
	OSHA Z1	Permissible exposure limit	10 ppm 25 mg/m3
Sodium bisulphite	ACGIH	time weighted average	5 mg/m3
Sulphur dioxide	ACGIH	time weighted average	2 ppm
	ACGIH	Short term exposure limit	5 ppm
	OSHA Z1	Permissible exposure limit	5 ppm 13 mg/m3

Ventilation: Good general ventilation should be used. Ventilation should be sufficient so that applicable occupational exposure limits are not exceeded. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances.

Respiratory protection: None should be needed under normal conditions of use.

Eye protection: Wear safety glasses with side shields (or goggles).

Skin and body protection: For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to condition of use.

9. Physical and Chemical Properties

Physical form: liquid

Colour: light yellow

Odour: vinegar

Specific gravity: 1.29

Vapour pressure (at 20.0 °C (68.0 °F)) : 24 mbar (18.0 mm Hg)

Vapour density: 0.6

Volatile fraction by weight: 45 - 50 %

Boiling point/range: > 100.0 °C (> 212.0 °F)

Water solubility: complete

pH: 4.8

Flash point: does not flash

10. Stability and reactivity

Stability: Stable under normal conditions.

Incompatibility: Acids, Strong bases, sodium hypochlorite (bleach), Halogenated compounds, Oxidizing agents. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas). Contact with strong acids liberates sulphur dioxide. Contact with base liberates flammable material. Contact with base liberates ammonia.

Hazardous decomposition products: Ammonia, chloramine, sulphur oxides, nitrogen oxides (NOx).

Hazardous Polymerization: Hazardous polymerization does not occur.

11. Toxicological information

Effects of Exposure

General advice:

Contains: Sodium thiosulphate. The toxicological properties of this material have not been fully investigated and its handling and use may present additional hazards. Expected to be a low health hazard for recommended handling.

Inhalation: Expected to be a low hazard for recommended handling. In contact with strong acids or if heated, sulphites may liberate sulphur dioxide gas. Sulphur dioxide gas is irritating to the respiratory tract. Some asthmatics or hypersensitive individuals may experience difficult breathing.

Eyes: No specific hazard known. May cause transient irritation.

Skin: This material has a low potential to cause allergic skin reactions; however, cases of human skin sensitization have been reported.

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

Data for Acetic acid (CAS 64-19-7):

Acute Toxicity Data:

- Oral LD50 (rat): 3,310 - 3,530 mg/kg
- Oral LD50: 4,960 mg/kg
- Inhalation LC50: 5620 ppm / 1.00 hr
- Dermal LD50: 1,060 mg/kg
- Skin irritation: severe
- Eye irritation: severe

Data for Sodium bisulphite (CAS 7631-90-5):

Acute Toxicity Data:

- Oral LD50 (rat): > 1,600 mg/kg

Data for Sodium thiosulphate (CAS 7772-98-7):

Acute Toxicity Data:

- Oral LD50 (rat): > 5,000 mg/kg
- Oral LD50 (male rat): > 1,600 mg/kg
- Skin irritation: slight

12. Ecological information

The following properties are ESTIMATED from the components of the preparations.

Potential Toxicity:

Toxicity to fish:	> 100 mg/l
Toxicity to daphnia:	> 100 mg/l
Toxicity to algae:	> 100 mg/l
Toxicity to other organisms:	> 100 mg/l

Persistence and degradability: Readily biodegradable

Chemical Oxygen Demand (COD): 306 g/l

Biochemical Oxygen Demand (BOD): 249 g/l

After dilution with a large amount of water, followed by secondary waste treatment, this material is not expected to cause adverse environmental effects.

13. Disposal considerations

Discharge, treatment, or disposal may be subject to federal, state, commonwealth, provincial, or local laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

14. Transport information

Not regulated for all modes of transportation.

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

15. Regulatory information

WHMIS (Canada): Noncontrolled

Other regulations

American Conference of Governmental Industrial Hygienists (ACGIH):	Sodium bisulphite: Group A4 (Not classifiable as a human carcinogen.)
International Agency for Research on Cancer (IARC):	Ammonium bisulphite: 3 (not classifiable as to carcinogenicity to humans), Sodium bisulphite: 3 (Classification not possible from current data.)
U.S. National Toxicology Program (NTP):	none
U.S. Occupational Safety and Health Administration (OSHA):	none
U.S. California Prop. 65:	none
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:	Ammonium bisulphite, Ammonium acetate, Ammonium thiosulphate

16. Other information

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.

US/Canadian Label Statements:

CONTAINS: Ammonium bisulphite (10192-30-0), Sodium bisulphite (7631-90-5), Acetic acid (64-19-7), Ammonium thiosulphate (7783-18-8), Sodium thiosulphate (7772-98-7)

CAUTION!
DRIED PRODUCT RESIDUE CAN ACT AS A REDUCING AGENT.
MAY BE HARMFUL IF SWALLOWED.

Keep container tightly closed to prevent the loss of water.
Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly.
Avoid prolonged or repeated breathing of vapour.
Avoid contact with eyes, skin, and clothing.
Use only with adequate ventilation.
Wash thoroughly after handling.

FIRST AID: If inhaled, move to fresh air. Any material that contacts the eye should be washed out immediately with water. Wash off with soap and water. Get medical attention if symptoms occur. If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Keep out of reach of children.

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.

IN CASE OF FIRE: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Flush with plenty of water.

IN CASE OF SPILL: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Collect in a noncombustible container for prompt disposal. Clean surface thoroughly to remove residual contamination. For Large Spills: Flush with plenty of water.

The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment. The information relating to the working solution is for guidance purposes only, and is based on correct mixing and use of the product according to instructions.

R-1, S-1, F-1, C-1