Material Safety Data Sheet

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

Product name: KODAK X-OMAT RA/30 Fixer and Replenisher, Working solution

Product code: 1367242, Working solution

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 (fixer), For industrial use only.

2. Hazards identification

CONTAINS: Ammonium thiosulphate (7783-18-8), Sodium bisulphite (7631-90-5), Ammonium bisulphite (10192-30-0)

WARNING!
MAY BE HARMFUL IF SWALLOWED.

HMIS III Hazard Ratings: Health - 1, Flammability - 0, Physical Hazard -

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

NOTE: HMIS III and NFPA hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. An asterisk (*), in the HMIS III health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight percent	Components (CAS-No.)
85 - 95	Water (7732-18-5)
5 - 10	Ammonium thiosulphate (7783-18-8)
0.1 - 1	Sodium bisulphite (7631-90-5)
0.1 - 1	Ammonium bisulphite (10192-30-0)
0.1 - 1	Potassium acetate (127-08-2)

4. First aid measures

Inhalation: If inhaled, remove 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: Get medical attention if symptoms occur.

5. Fire-fighting measures

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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

Hazardous Combustion Products: None, (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: None.

6. Accidental release measures

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

7. Handling and storage

Personal precautions: Avoid breathing mist or vapour. Avoid contact with eyes and prolonged or repeated contact with skin. Use only with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep from contact with oxidizing materials.

Storage: 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
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
Ammonia	ACGIH	time weighted average	25 ppm
	ACGIH	Short term exposure limit	35 ppm

OSHA Z1	Permissible exposure limit	50 ppm	35 mg/m3

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions.

Respiratory protection: None should be needed. A respirator should be worn if hazardous decomposition products are likely to be or have been released. Respirator type: Acid gas. See Stability and Reactivity Section. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

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: no data available

Odour: no data available

Specific gravity: > 1.0

Vapour pressure: no data available

Vapour density: 0.6

Volatile fraction by weight: 85 - 95 %

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

Water solubility: soluble

pH: no data available

Flash point: does not flash

10. Stability and reactivity

Stability: Stable under normal conditions.

Incompatibility: Acids, Strong bases, sodium hypochlorite (bleach), Oxidizing agents. Contact with strong acids may liberate sulphur dioxide. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas).

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

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

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 Sodium bisulphite (CAS 7631-90-5):

Acute Toxicity Data:

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

- Skin irritation: No skin irritation
- Eye irritation: No eye irritation

12. Ecological information

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

Potential Toxicity:

Toxicity to fish (LC50):	> 100 mg/l
Toxicity to daphnia (EC50):	> 100 mg/l
Toxicity to algae (IC50):	> 100 mg/l
Toxicity to other organisms (EC50):	> 100 mg/l

Persistence and degradability: Readily biodegradable.

Chemical Oxygen Demand (COD): 43 g/l

Biochemical Oxygen Demand (BOD): 35 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):	Sodium bisulphite: 3 (Classification not possible from current data.), Ammonium bisulphite: 3 (not classifiable as to carcinogenicity to humans)
U.S. National Toxicology Program (NTP):	none
U.S. Occupational Safety and Health Administration (OSHA):	none
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 thiosulphate, Ammonium bisulphite

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 thiosulphate (7783-18-8), Sodium bisulphite (7631-90-5), Ammonium bisulphite (10192-30-0)

WARNING!
MAY BE HARMFUL IF SWALLOWED.

Keep container tightly closed to prevent the loss of water.
Avoid breathing mist or vapour.
Avoid contact with eyes and prolonged or repeated contact with skin.
Use only with adequate ventilation.
Wash thoroughly after handling.

FIRST AID: If swallowed, seek medical advice. Never give anything by mouth to an unconscious person.

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 extinguishing measures that are appropriate to local circumstances and the surrounding environment.

IN CASE OF SPILL: Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

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.