

Material Safety Data Sheet

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

Product name: KODAK RP X-OMAT LO Fixer and Replenisher, Working Solution

Product code: 8632663 - Working Solution

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.

Synonyms: None.

2. Hazards identification

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

WARNING!

CAN DECOMPOSE AT ELEVATED TEMPERATURES

MAY BE HARMFUL IF SWALLOWED.

DRIED PRODUCT RESIDUE CAN ACT AS A REDUCING AGENT.

HMIS II Hazard Ratings:

Health - 1, Flammability - 0, Reactivity (Stability) - 0

NFPA Hazard Ratings:

Health - 1, Flammability - 0, Instability - 0

NOTE: HMIS II 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 II 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 %	Components (CAS-No.)
80 - 85	Water (7732-18-5)
15	Ammonium thiosulphate (7783-18-8)
1 - 5	Sodium thiosulphate (7772-98-7)
1	Ammonium bisulphite (10192-30-0)
< 1	Acetic acid (64-19-7)
< 1	Sodium bisulphite (7631-90-5)

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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, sulphur oxides, nitrogen oxides (NO_x), (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: Fire or high temperatures may cause decomposition. Mixture contains a strong reducing agent. 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: Collect in a noncombustible container for prompt disposal. Flush with plenty of water. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

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

Prevention of Fire and Explosion: Keep away from heat and sources of ignition. 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

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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: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. 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: 1.087

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

Vapour density: 0.6

Volatile fraction by weight: 80 - 85 %

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

Water solubility: complete

pH: 4.3 - 4.4

Flash point: does not flash

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10. Stability and reactivity

Stability: Stable

Incompatibility: strong acids and strong bases, sodium hypochlorite (bleach), strong oxidizing agents, combustible material, halogenated materials. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas). Contact with base liberates ammonia. Contact with base liberates flammable material.

Hazardous decomposition products: sulphur dioxide, ammonia, chloramine.

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: Expected to be a low hazard for recommended handling. 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 thiosulphate (CAS 7772-98-7):

Acute Toxicity Data:

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

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

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

Acute Toxicity Data:

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

12. Ecological information

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

Potential Toxicity:

Fish LC50: > 100 mg/l

Daphnid EC50: > 100 mg/l

Algal IC50: > 100 mg/l

Waste treatment organisms EC50: > 100 mg/l

Organics Readily Degradable: Readily biodegradable

Potential Bioaccumulation: log Pow < 1

COD (approximate): 80 g/l

BOD (approximate): 65 g/l

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

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

15. Regulatory information

U.S. California Prop. 65: none

Carcinogenicity Classification (components present at 0.1% or more):

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), Sulphur dioxide: 3 (Classification not possible from current data.)

American Conference of Governmental Industrial Hygienists (ACGIH): Sodium bisulphite: Group A4 (Not classifiable as a human carcinogen.), Sulphur dioxide: Group A4 (Not classifiable as a human carcinogen.)

U.S. National Toxicology Program (NTP): none

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U.S. Occupational Safety and Health Administration (OSHA): none

Chemical(s) subject to the reporting requirements of U.S. Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372: Ammonium thiosulphate, Ammonium bisulphite

16. Other information

US/Canadian Label Statements:

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

WARNING!
CAN DECOMPOSE AT ELEVATED TEMPERATURES
MAY BE HARMFUL IF SWALLOWED.
DRIED PRODUCT RESIDUE CAN ACT AS A REDUCING AGENT.

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

FIRST AID: If inhaled, move to fresh air. Get medical attention if symptoms occur. Wash off with soap and water. 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.

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

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