Chemical Safety Data Sheet

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: 6610133 - Part A

Manufacturer: KODAK (Wuxi) Company Limited, 18 Chang Jiang Road, New District, 214028, (Wuxi)

For Chemical Emergency Information, call: (800) 820-5800

Synonyms: None.

Product Use: Professional x-ray film photographic processing solution For industrial use only.

2. Composition/information on ingredients

Weight %	Components (CAS-No.)
45 - 50	Ammonium thiosulphate (7783-18-8)
35 - 40	Water (7732-18-5)
5 - 10	Sodium thiosulphate (7772-98-7)
1 - 5	Acetic acid (64-19-7)
1 - 5	Ammonium bisulphite (10192-30-0)
1 - 5	Sodium bisulphite (7631-90-5)

3. Hazards identification

Not classified as hazardous according to People's Republic of China National Standard

Irritating to eyes and skin.

4. First aid measures

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

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

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

Unusual Fire and Explosion Hazards: Fire or high temperatures may cause decomposition. Reacts violently with oxidizing materials. May cause spontaneous heating and ignition when absorbed on porous materials (e.g., earth, rags, paper, sawdust, cotton, clothing). Dried product residue can act as a reducing agent.

6. Accidental release measures

Remove all sources of ignition. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. 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. Wash thoroughly after handling. Ensure adequate ventilation.

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. Ensure adequate ventilation.

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	CN OEL	Time Weighted Average (TWA):	10 mg/m3
		Short Term Exposure Limit (STEL):	20 mg/m3
Sulphur dioxide		Time Weighted Average (TWA):	5 mg/m3
		Short Term Exposure Limit (STEL):	10 mg/m3
Ammonia		Time Weighted Average (TWA):	20 mg/m3
		Short Term Exposure Limit (STEL):	30 mg/m3
Acetic acid	ACGIH	time weighted average	10 ppm
		Short term exposure limit	15 ppm

Sodium bisulphite	time weighted average	5 mg/m3
Sulphur dioxide	time weighted average	2 ppm
	Short term exposure limit	5 ppm
Ammonia	time weighted average	25 ppm
	Short term exposure limit	35 ppm

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: In case of insufficient ventilation, wear personal respiratory protection designed to protect against both aerosols and acid gas.

Eye protection: Wear safety glasses with side shields (or goggles) and a face shield.

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 green, yellow

Odour: vinegar

Specific gravity: 1.35

Vapour pressure (at 20 ° C (68.0 ° F)): 24 mbar (18.0 mm Hg)

Vapour density: 0.6

Volatile fraction by weight: 35 - 40 %

Boiling point/range: > 100 ° C (> 212.0 ° F)

Water solubility: complete

pH: 4.8

Flash point: does not flash

10. Stability and reactivity

Stability: Stable under normal conditions. Safe handling temperatures are dependent on specific conditions of use and are typically substantially below the onset temperature. Consult your technical safety experts.

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

Hazardous decomposition products: ammonia, chloramine, sulphur oxides.

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.

Contains: Acetic acid. 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 occured, and the ventilation rate in the room.

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. Some asthmatics or hypersensitive individuals may experience difficult breathing.

Eyes: Irritating to eyes.

Skin: Irritating to skin.

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

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
COD (approximate):	440 g/l
BOD (approximate):	350 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

Not regulated for all modes of transportation.

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

15. Regulatory information

Dangerous Chemicals list -2002 published by China National Security to produce Surveillance administrative Bureau: Not listed

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

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.)
American Conference of Governmental Industrial Hygienists (ACGIH): Sodium bisulphite: Group A4 (Not classifiable as a human carcinogen.)
U.S. National Toxicology Program (NTP): none
U.S. Occupational Safety and Health Administration (OSHA): none

16. Other information

Labeling:

Not classified as hazardous according to People's Republic of China National Standard

Risk Phrases: R36/38: Irritating to eyes and skin.

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.