

Safety Data Sheet

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

1.1. Product identifier: KODAK Rapid Fixer and Replenisher, Part A

Product code: 3781192 - Part A **Mega Part Number:** 57-61719

Synonyms: 4896

1.2. Relevant identified uses of the substance or mixture and uses advised against:

1.2.1. Identified uses: photographic processing chemical (fixer). For industrial use only.

1.3. Details of the supplier of the safety data sheet: KODAK LIMITED, Hemel One, Boundary Way, Hemel Hempstead, HP2 7YU, Great Britain

For further information about this product, telephone 0870-2430270 or email kes@kodak.com.

1.4. Emergency telephone number:

IN EMERGENCY, telephone: 0870-2430270. Available during office hours only.

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to EU Directives 67/548/EEC or 1999/45/EC:

Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC

2.2. Label elements:

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.

Labelling according to 67/548/EEC or 1999/45/EC:

Not a hazardous substance or preparation according to EC-directives 67/548/EEC or 1999/45/EC.

2.3. Other hazards

None known.

3. Composition/information on ingredients

Weight percent	Component	CAS-No. EC No. REACH Reg. No.	Classification according to 1272/2008/EC	Classification according to 67/548/EEC
40 - 45	ammonium thiosulphate	7783-18-8 231-982-0 not available	**	**
5 - 10	sodium acetate	127-09-3 204-823-8	**	**

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		not available		
1 - 5	Boric acid	10043-35-3 233-139-2 not available	Repr. 1B H360FD *	T; Repr.Cat.2; R60, R61 *
1 - 5	ammonium sulphite	10196-04-0 233-484-9 not available	**	**
1 - 5	Acetic acid	64-19-7 200-580-7 not available	Flam. Liq. 3 H226 Skin Corr. 1A H314 *	C; R10, R35 *
0.1 - < 1	Sodium hydrogensulfite	7631-90-5 231-548-0 not available	Acute Tox. 4 H302 *	Xn; R22, R31 *

Full text of R- and H-phrases: see Section 16.

* Substance classification as listed in Annex VI to Regulation (EC) No 1272/2008

** Substance not listed in Annex VI to Regulation (EC) No 1272/2008

4. First aid measures

4.1. Description of first aid measures

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

4.1.2. Skin: Immediately flush with plenty of water for at least 15 minutes and wash using soap. Get medical attention if symptoms occur.

4.1.3. Eyes: In case of contact with eyes, flush immediately with plenty of water and seek medical attention.

4.1.4. Ingestion: Do NOT induce vomiting. Give victim a glass of water. Get medical attention immediately. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects, both acute and delayed: No information available.

4.3. Indication of immediate medical attention and special treatment needed: No information available.

5. Fire-fighting measures

5.1. Extinguishing Media: The product is not flammable. Use appropriate agent for adjacent fire.

5.2. Special hazards arising from the substance or mixture

5.2.1. Hazardous Combustion Products: Fire or excessive heat may produce hazardous decomposition products., (see also Stability and Reactivity section).

5.2.2. 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).

5.3. Advice for firefighters: Wear self-contained breathing apparatus and protective clothing.

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6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures: Refer to protective measures listed in sections 7 and 8.

6.2. Environmental precautions: Prevent spillage from entering drains. Absorb spill with vermiculite or other inert absorbant material such as sand or earth, then place in a suitable container for proper disposal. Clean surface thoroughly with water to remove residual contamination.

6.3. Methods and materials for containment and cleaning up: Contaminated absorbent should be disposed of in accordance with local regulations.

6.4. Reference to other sections: See Section 8 for recommendations on the use of personal protective equipment.

7. Handling and storage

7.1. Precautions for safe handling

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

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

7.1.3. Ventilation: Match ventilation rates to conditions of use so as not to exceed any applicable exposure limits (see Section 8). Good general ventilation of 10 or more room volumes per hour in the work area is recommended.

7.2. Conditions for safe storage, including any incompatibilities: Cool conditions (5 - 30°C). Store in original container. Keep container tightly closed to prevent the loss of water. Keep away from incompatible substances (see Incompatibility section.)

7.3. Specific end uses: No information available.

8. Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Acetic acid	HSA	time weighted average	10 ppm 25 mg/m ³
		Short term exposure limit	15 ppm 37 mg/m ³
Sulphur dioxide		time weighted average	2 ppm 5 mg/m ³
		Short term exposure limit	5 ppm 13 mg/m ³

8.2. Exposure controls

8.2.1. Appropriate engineering controls: Avoid exposure to mists and vapours by mixing solutions in closed vessels and/or under local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions.

8.2.2. Individual protection measures, such as personal protective equipment

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Eye protection: Wear safety glasses with side shields or protective goggles whenever mixing or handling solutions.

Hand protection: Using the information provided in Section 2, seek the advice of the glove supplier as to the most suitable glove material. Avoid skin contact when mixing or handling the substance/preparation or a mixture by wearing impervious gloves and protective clothing appropriate to the risk of exposure.

Use chemical resistant gloves. In case of prolonged immersion or frequently repeated contact:

Material	Thickness	Breakthrough time
Consult your glove manufacturer.	--	

Consult your glove manufacturer for advice on what glove material to avoid.

The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374. This recommendation applies only to the product stated in the Safety Data Sheet and supplied by us as well as to the purpose specified by us.

Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment.

General health and safety measures: Safety shower, eye wash, washing facilities as appropriate to condition of use.

8.2.3. Environmental exposure controls: No information available.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: liquid

Colour: light yellow

Odour: slight sulphur, slight acetic acid

Odour Threshold: no data available

pH: 5.0

Melting point/freezing point: no data available

Initial boiling point and boiling range: > 100 °C (> 212.0 °F)

Flash point: does not flash

Evaporation rate: no data available

Flammability (Solid; gas) : no data available

Upper explosion limit: no data available

Lower explosion limit: no data available

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

Vapour density: 0.6

Specific gravity: 1.32

Volatile fraction by weight: 40 - 45 %

Water solubility: complete

Partition coefficient: n-octanol/water: no data available

Autoignition temperature: no data available

Decomposition temperature: no data available

Viscosity: no data available

Explosive properties: no data available

Oxidizing properties: no data available

10. Stability and reactivity

10.1. Reactivity: no data available

10.2. Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions: Hazardous polymerisation does not occur.

10.4. Conditions to avoid: no data available

10.5. Incompatible materials: Acids, Strong bases, sodium hypochlorite (bleach), Halogenated compounds, Oxidizing agents. Contact with strong acids may liberate sulphur dioxide. Contact with strong bases may liberate ammonia. Contact with sodium hypochlorite (bleach) may liberate hazardous materials.

10.6. Hazardous decomposition products: Carbon oxides, Ammonia, chloramine, nitrogen oxides (NOx), Sulphur oxides Exposure to temperatures in excess of 180°C may liberate hazardous decomposition products including oxides of carbon, nitrogen and sulphur.

11. Toxicological information

Effects of Exposure

General advice:

Contains: Boric acid. Based on repeated-dose ingestion studies in animals, may cause adverse reproductive and developmental effects. However, high doses to humans handling this material are not expected since oral consumption is not a likely route of significant exposure.

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

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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 occurred, and the ventilation rate in the room.

Toxicokinetics, metabolism and distribution

no data available

Acute toxicity

- Oral LD50 (rat): > 2,540 mg/kg
- Dermal LD50: 20 mL/kg

Corrosivity and irritation

- Skin irritation: moderate
- Eye irritation: slight

Sensitisation

no data available

CMR effects

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

Reproductive toxicity

No information available.

Specific target organ toxicity - single exposure

No information available.

Specific target organ toxicity - repeated exposure

No information available.

Aspiration hazard

No information available.

Information on likely routes of exposure

Inhalation: Expected to be a low hazard for recommended handling. Some asthmatics or hypersensitive individuals may experience difficult breathing after inhaling sulfite salts.

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

Skin: Expected to be a low hazard for recommended handling.

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Ingestion: Expected to be a low ingestion hazard. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

12. Ecological information

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

12.1. Toxicity

Toxicity to fish (LC50): 10 - 100 mg/l

Toxicity to daphnia (EC50): > 100 mg/l

12.2. Persistence and degradability

Persistence and degradability: Not readily biodegradable.

12.3. Bioaccumulative potential

no data available

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available.

13. Disposal considerations

13.1. Waste treatment methods

This information is provided to assist users in the correct disposal of working solutions prepared and used to Kodak specifications.

Working solution: Recover silver before disposal. Waste material is currently classified as hazardous under Council Directive 91/689/EEC. The European Waste Catalogue Code is 09 01 04 Fixer solutions. Dispose according to the local regulations or guidelines that apply to the category of waste. Ensure the use of properly authorised waste management companies.

Product containers: If thoroughly cleaned, preferably by rinsing at least three times with small quantities of water, waste product packaging may be consigned for recovery or disposal as non hazardous waste. Whenever possible, minimize waste by using the rinsing water to make up the working solution. The European Waste Catalogue Code is 15 01 02 plastic packaging.

Waste product packaging contaminated by residues of hazardous contents should be consigned for disposal as hazardous waste. In this case, the European Waste Catalogue Code is 15 01 10 packaging containing residues of or contaminated by dangerous substances.

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14. Transport information

Not regulated for all modes of transportation.

For more transportation information, go to: www.kodak.com/go/ship.

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Notification status

Regulatory List	Notification status
TSCA	All listed
DSL	All listed
NDSL	None listed
EINECS	All listed
ELINCS	None listed
NLP	None listed
AICS	All listed
IECS	All listed
ENCS	All listed
ECI	All listed
NZIoC	All listed
PICCS	All listed

"Not all listed" indicates one or more component is either not on the public Inventory or is subject to exemption requirements. If additional information is needed contact Kodak.

15.2. Chemical safety assessment

Chemical safety assessment has not been performed.

16. Other information

16.1. Indication of changes

Corrected/updated:
Multiple changes due to format update

Review Safety Data Sheet before using product.

16.2. Key or legend to abbreviations and acronyms used in the safety data sheet

ADR = European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS = Australian Inventory of Chemical Substances; CAS = Chemical Abstracts Service; CLP = Classification, Labelling, and Packaging; DSL = Canada Domestic Substances List; EC = European Commission; EC50 = Effective Concentration 50%; ECI = Korea Existing Chemicals list; EINECS = European Inventory of Existing Commercial chemical Substances; ELINCS = European List of Notified Chemical Substances; ENCS = Japan Existing and New Chemical Substances; GHS = Globally Harmonized System of Classification and Labelling of Chemicals; IARC = International Agency for Research on Cancer; IATA = International Air Transport

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Association; IC50 = Inhibitory Concentration 50%; IECs = China Inventory of Existing Chemical Substances; IMDG = International Maritime Dangerous Goods; LC50 = Lethal Concentration 50%; LD50 = Lethal Dose 50%; mg/Kg = milligrams per Kilogram; mg/L = milligrams per Liter; mg/m³ = milligrams per Cubic Meter; NDSL = Canada Non-Domestic Substances List; NLP = Europe No Longer Polymers; NZIoC = New Zealand Inventory of Chemicals; PBT = Persistent, Bioaccumulative and Toxic substances; PICCS = Philippines Inventory of Chemicals and Chemical Substances; ppm = parts per million; REACH= Registration, Evaluation and Authorization of Chemicals; RID = European Agreement concerning the International Carriage of Dangerous Goods by Rail; TSCA = Toxic Substances Control Act; vPvB = very Persistent, very Bioaccumulative substances

16.3. Key literature references and sources for data

Available upon request.

16.4. Methods used for classification of mixture according to Regulation (EC) No 1272/2008

The determination of classifications is derived via expert judgment and/or weight of evidence.

16.5. Relevant R- and H-phrases

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H360FD	May damage fertility. May damage the unborn child.
R10	Flammable.
R22	Harmful if swallowed.
R31	Contact with acids liberates toxic gas.
R35	Causes severe burns.
R60	May impair fertility.
R61	May cause harm to the unborn child.

16.6. Training advice

Review Safety Data Sheet before using product.

16.7. Further information

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.
