

Safety Data Sheet

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Kodak alaris

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

Product name: KODAK T-MAX Fixer

Product code: 5089198

Synonyms: PCD 4896

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

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

Supplier: Kodak Alaris Inc., 2400 Mount Read Boulevard, Rochester, NY 14615

IN EMERGENCY, telephone: 1-800-424-9300 or +1 703-527-3887.

For further information about this product, email EHS-Questions@Kodakalaris.com.

2. Hazards identification

Classification of the chemical in accordance with paragraph (d) of 29 CFR 1910.1200:

Hazard class	Hazard category	Route of exposure
Acute toxicity	Category 4	Inhalation
Acute toxicity	Category 4	Oral
Eye irritation	Category 2B	--
Skin corrosion/irritation	Category 2	--
Respiratory sensitisation	Category 1	--
Reproductive toxicity	Category 1	--

GHS-Labeling

Contains:

Ammonium thiosulphate (7783-18-8), Sodium acetate (127-09-3), Sodium bisulphite (7631-90-5), Ammonium sulphite (10196-04-0), Boric acid (10043-35-3), Acetic acid (64-19-7)

Symbol(s):

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Signal word: Danger

Hazard statements: Harmful if inhaled. Harmful if swallowed. Causes eye irritation. Causes skin irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May damage fertility or the unborn child.

Precautionary statements:

Prevention: Use only outdoors or in a well-ventilated area. In case of inadequate ventilation wear respiratory protection. Obtain special instructions before use. Wear protective gloves/eye protection/face protection. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash thoroughly after handling. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.

Response: Call a POISON CENTER or doctor/ physician if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

Storage: Store in a well-ventilated place. Keep cool.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulation.

Other hazards which do not result in classification:

Dried product residue can act as a reducing agent.

HMIS III Hazard Ratings: Health - 2, Flammability - 1, Physical Hazard - 0

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

NOTE: HMIS III and NFPA 704 (2007) 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

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potential hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight percent	Components - (CAS-No.)
40 - 45	Ammonium thiosulphate (7783-18-8)
5 - 10	Sodium acetate (127-09-3)
1 - 5	Boric acid (10043-35-3)
1 - 5	Ammonium sulphite (10196-04-0)
1 - 5	Acetic acid (64-19-7)
0.1 - < 1	Sodium bisulphite (7631-90-5)

4. First aid measures

Inhalation: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician. Get medical advice/ attention if you feel unwell.

Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Skin: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. Call a POISON CENTER or doctor/ physician if you feel unwell.

Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

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

Indication of any immediate medical attention and special treatment needed:

Treatment: No information available.

5. Firefighting measures

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

Special hazards arising from the substance or mixture

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Hazardous Combustion Products: Carbon oxides, Sulphur oxides, Nitrogen oxides (NOx), (see also Hazardous Decomposition Products sections.)

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

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

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

Methods and materials for containment and 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.

Environmental precautions: No information available.

7. Handling and storage

Precautions for safe handling

Personal precautions: Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Avoid contact with eyes, skin, and clothing. Obtain special instructions before use. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Do not handle until all safety precautions have been read and understood. Do not eat, drink or smoke when using this product.

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.

Conditions for safe storage, including any incompatibilities: 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
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Boric acid	ACGIH	time weighted average	2 mg/m3
			<i>Form of exposure: inhalable fraction</i>
Boric acid		Short term exposure limit	6 mg/m3
			<i>Form of exposure: inhalable fraction</i>
Acetic acid		time weighted average	10 ppm
		Short term exposure limit	15 ppm
	OSHA	time weighted average	10 ppm 25 mg/m3
Sulphur dioxide	ACGIH	Short term exposure limit	0.25 ppm
	OSHA	time weighted average	5 ppm 13 mg/m3

Appropriate engineering controls: Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Controls should be sufficient so that applicable occupational exposure limits are not exceeded.

Individual protection measures, such as personal protective equipment

Eye protection: Wear eye/face protection.

Hand protection: Wear protective gloves.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: full-face organic vapour cartridge. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

9. Physical and chemical properties

Physical form: liquid

Colour: light yellow

Odour: slight sulphur, slight acetic acid

Specific gravity: 1.32

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

Vapour density: 0.6

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

Water solubility: complete

pH: 5.0

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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

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

Auto-ignition 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

Reactivity: No data available

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerisation does not occur.

Conditions to avoid: No data available

Incompatible materials: 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, Nitrogen oxides (NO_x), Sulphur oxides

11. Toxicological information

Effects of Exposure

General advice:

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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 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.

Inhalation: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Some asthmatics or hypersensitive individuals may experience difficult breathing after inhaling sulfite salts.

Eyes: Causes eye irritation.

Skin: Causes skin irritation.

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

Acute Toxicity Data:

Oral LD50 (rat): > 2,540 mg/kg

- Dermal LD50: 20 mL/kg
- Skin irritation: moderate
- Eye irritation: slight

12. Ecological information

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

Potential Toxicity:

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

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

Persistence and degradability: Not readily biodegradable.

Bioaccumulative potential

No data available

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Mobility in soil

No information available.

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: www.kodak.com/go/ship.

15. Regulatory information

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.

Other regulations

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American Conference of Governmental Industrial Hygienists (ACGIH):	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
International Agency for Research on Cancer (IARC):	Group 2A - Probably Carcinogenic to Humans: Boric acid
U.S. National Toxicology Program (NTP):	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
U.S. Occupational Safety and Health Administration (OSHA):	OSHA Carcinogen or Potential Carcinogen: Boric acid
California Prop. 65	WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
U.S. - CERCLA/SARA (40 CFR § 302.4 Designation of hazardous substances):	Ammonium sulphite , Acetic acid
U.S. - CERCLA/SARA - Section 302 (40 CFR § 355 Appendices A and B - The List of Extremely Hazardous Substances and Their Threshold Planning Quantities):	No components of this product are subject to the SARA Section 302 (40 CFR 355) reporting requirements.
U.S. - CERCLA/SARA - Section 313 (40 CFR § 372.65 Toxic Chemical Release Reporting):	Ammonium thiosulphate , Ammonium sulphite
U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances:	Ammonium sulphite , Acetic acid
U.S. - California - 8 CCR Section 5200-5220 - Specifically Regulated Carcinogens:	No components found on the California Specifically Regulated Carcinogens List.
U.S. - California - 8 CCR Section 5203 Carcinogens:	No components found on the California Section 5203 Carcinogens List.
U.S. - California - 8 CCR Section 5209 Carcinogens:	No components found on the California Section 5209 Carcinogens List.
U.S. - Massachusetts - General Law Chapter 111F (MGL c 111F) - Hazardous Substances Disclosure by Employers (a.k.a. Right to Know Law):	Ammonium thiosulphate , Ammonium sulphite , Acetic acid
U.S. - Minnesota Employee Right-to-Know (5206.0400,	Acetic acid

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Subpart 5. List of Hazardous Substances):

U.S. - New Jersey - Worker and Community Right to Know Act (N.J.S.A. 34:5A-1): Ammonium sulphite , Acetic acid

U.S. - Pennsylvania - Part XIII. Worker and Community Right-to-Know Act (Chapter 323 Hazardous Substance List, Appendix A): Water , Ammonium thiosulphate , Sodium acetate , Boric acid , Ammonium sulphite , Acetic acid , Sodium 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:

KODAK T-MAX Fixer

Contains:

Ammonium thiosulphate (7783-18-8), Sodium acetate (127-09-3), Sodium bisulphite (7631-90-5), Ammonium sulphite (10196-04-0), Boric acid (10043-35-3), Acetic acid (64-19-7)

Symbol(s):



Signal word: Danger

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Response: Call a POISON CENTER or doctor/ physician if you feel unwell. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

Storage: Store in a well-ventilated place. Keep cool.

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulation.

FIRST AID: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician. Get medical advice/ attention if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. Call a POISON CENTER or doctor/ physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. 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. Additional Components Include: Water (7732-18-5) , Sodium acetate (127-09-3).

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-2, S-2, F-1, C-1