

6/17/2024: File reviewed, more current MSDS/SDS not available. CAS

1. Identification

Product identifier KODAK Fixer

Other means of identification

SDS number PCD 6010

Product code 5160320

Synonyms UFI: WGG0-EV0V-KF0P-YPJF

Recommended use Photographic processing chemical. (fixer).

Recommended restrictions For industrial use only.

Manufacturer/Importer/Supplier/Distributor information

Supplier Kodak Alaris Inc

Address 336 Initiative Drive
Rochester, NY 14624

e-mail EHS-Questions@Kodakalaris.com

Emergency telephone number 1-800-424-9300 OR +1 703-741-5970

Supplier Not available.

2. Hazard identification

Physical hazards Not classified.

Health hazards Skin corrosion/irritation Category 2

 Serious eye damage/eye irritation Category 2A

 Reproductive toxicity Category 1B

Environmental hazards Not classified.

Label elements



Signal word Danger

Hazard statement Causes skin irritation. Causes serious eye irritation. May damage fertility or the unborn child.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Response IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Storage Store locked up.

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

Other hazards None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Aluminum, Water Soluble Salts, N.o.s.		7784-26-1	10 - 15
Sodium Metabisulfite		7681-57-4	5 - 10
Boric Anhydride		1303-86-2	1 - 5
Sodium Borate		1330-43-4	0.1 - 1

All concentrations are in percent by weight. Chemical ranges are provided in lieu of exact percentages, which are withheld as trade secrets.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Eye contact	Do not rub eyes. Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire-fighting measures

Suitable extinguishing media	Water spray. Carbon dioxide (CO ₂). Dry chemicals. Flush with plenty of water.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. Sulfur oxides. Nitrogen oxides (NO _x). Carbon oxides.
Special protective equipment and precautions for firefighters	Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.
Fire fighting equipment/instructions	Use water spray to cool unopened containers.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Dusts may form an explosive mixture with air.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. This product is miscible in water. Stop the flow of material, if this is without risk. Large Spills: Wet down with water and dike for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Shovel the material into waste container. Following product recovery, flush area with water. Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)	TWA	1 mg/m ³	Respirable fraction.
Boric Anhydride (CAS 1303-86-2)	TWA	10 mg/m ³	
Sodium Borate (CAS 1330-43-4)	STEL	6 mg/m ³	Inhalable fraction.
	TWA	2 mg/m ³	Inhalable fraction.
Sodium Metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³	

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value
Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)	TWA	2 mg/m ³
Boric Anhydride (CAS 1303-86-2)	TWA	10 mg/m ³
Sodium Borate (CAS 1330-43-4)	STEL	3 ppm
	TWA	1 mg/m ³
Sodium Metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)	TWA	1 mg/m ³	Respirable.
Boric Anhydride (CAS 1303-86-2)	TWA	10 mg/m ³	
Sodium Borate (CAS 1330-43-4)	STEL	6 mg/m ³	Inhalable
	TWA	2 mg/m ³	Inhalable
Sodium Metabisulfite (CAS 7681-57-4)	TWA	5 mg/m ³	

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)	TWA	1 mg/m ³	Respirable fraction.
Boric Anhydride (CAS 1303-86-2)	TWA	10 mg/m ³	
Sodium Borate (CAS 1330-43-4)	STEL	6 mg/m ³	Inhalable fraction.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
	TWA	2 mg/m3	Inhalable fraction.
Sodium Metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3	

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)	TWA	1 mg/m3	Respirable fraction.
Boric Anhydride (CAS 1303-86-2)	TWA	10 mg/m3	
Sodium Borate (CAS 1330-43-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.
Sodium Metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3	

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value	
Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)	TWA	2 mg/m3	
Boric Anhydride (CAS 1303-86-2)	TWA	10 mg/m3	
Sodium Borate (CAS 1330-43-4)	TWA	1 mg/m3	
Sodium Metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3	

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value	Form
Boric Anhydride (CAS 1303-86-2)	15 minute	20 mg/m3	
	8 hour	10 mg/m3	
Sodium Borate (CAS 1330-43-4)	15 minute	6 mg/m3	Inhalable fraction.
	8 hour	2 mg/m3	Inhalable fraction.
Sodium Metabisulfite (CAS 7681-57-4)	15 minute	10 mg/m3	
	8 hour	5 mg/m3	

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn. If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Powder.
Color	White
Odor	odorless
Odor threshold	Not available.
pH	4.2 - 4.6
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Appreciable.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Acids. Halogenated materials. Strong bases. Sodium hypochlorite (bleach). Contact with base liberates flammable material. Contact with base liberates ammonia. Contact with strong acids may liberate sulphur dioxide. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas).

Hazardous decomposition products

Carbon oxides. Sulfur oxides. Nitrogen oxides (NOx). Ammonia. Chloramine.

11. Toxicological information

Information on likely routes 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 difficulty breathing.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Harmful if swallowed. May cause irritation of the gastrointestinal tract. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Boric Anhydride (CAS 1303-86-2)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg
Oral		
LD50	Mouse	3163 mg/kg
Sodium Borate (CAS 1330-43-4)		
Acute		
Dermal		
LD50	Rabbit	> 1055 mg/kg
Inhalation		
LC50	Rat	> 0.002 mg/l, 4 Hours
Oral		
LD50	Rat	2660 mg/kg

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitization

Canada - Alberta OELs: Irritant

Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)	Irritant
Boric Anhydride (CAS 1303-86-2)	Irritant
Sodium Borate (CAS 1330-43-4)	Irritant
Sodium Metabisulfite (CAS 7681-57-4)	Irritant

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

ACGIH Carcinogens

Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)	A4 Not classifiable as a human carcinogen.
Sodium Borate (CAS 1330-43-4)	A4 Not classifiable as a human carcinogen.
Sodium Metabisulfite (CAS 7681-57-4)	A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)	Not classifiable as a human carcinogen.
Sodium Borate (CAS 1330-43-4)	Not classifiable as a human carcinogen.

Sodium Metabisulfite (CAS 7681-57-4)

Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Sodium Metabisulfite (CAS 7681-57-4)

3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	May damage fertility or the unborn child.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results
Aluminum, Water Soluble Salts, N.o.s. (CAS 7784-26-1)		
Aquatic		
Crustacea	EC50	Water flea (<i>Daphnia magna</i>) 45.8 - 73.31 mg/l, 48 hours
Sodium Borate (CAS 1330-43-4)		
Aquatic		
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>) 104 mg/l, 96 hours

Persistence and degradability	Not readily biodegradable.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

Canadian regulations	This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.
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Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information**Issue date** 07-16-2016**Revision date** 07-28-2020**Version #** 07

List of abbreviations

IARC Monographs. Overall Evaluation of Carcinogenicity
CAS: Chemical Abstract Service.
PBT: Persistent, bioaccumulative, toxic.
vPvB: very Persistent, very Bioaccumulative.
DNEL: Derived No Effect Level.
PNEC: Predicted No Effect Concentration.
TWA: Time Weighted Average.
STEL: Short-term Exposure Limit.
LD50: Lethal Dose 50%.
LC50: Lethal Concentration 50%.
EC50: Effective Concentration 50%.

References ECHA: European Chemical Agency.

Disclaimer

Kodak Alaris cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information

This document has undergone significant changes and should be reviewed in its entirety.