

Safety Data Sheet

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Kodak alaris

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

Product name: KODAK FLEXICOLOR LU Developer Replenisher LORR, Working Solution

Product code: 8231672 - Working Solution

Synonyms: None.

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

Identified uses: photographic processing chemical (developer/activator). 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
Skin corrosion/irritation	Category 2	--
Serious eye damage/eye irritation	Category 1	--
Skin sensitisation	Category 1	--

GHS-Labeling

Contains:

Potassium carbonate (584-08-7), Potassium hydroxide (1310-58-3), Bis(hydroxylammonium) sulphate (10039-54-0), 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate (25646-77-9)

Symbol(s):



Signal word: Danger

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Hazard statements: Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction.

Precautionary statements:

Prevention: Wear protective gloves/ eye protection/ face protection. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response: Immediately call a POISON CENTER or doctor/ physician. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take off contaminated clothing and wash before reuse.

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

HMIS III Hazard Ratings: Health - 3, Flammability - 0, Physical Hazard - 0

NFPA Hazard Ratings: Health - 3, Flammability - 0, 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 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.)
5 - 10	Potassium carbonate (584-08-7)
0.5 - < 3	Potassium hydroxide (1310-58-3)
0.1 - < 1	Bis(hydroxylammonium) sulphate (10039-54-0)
0.1 - < 1	4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate (25646-77-9)
0.1 - < 1	Sodium metabisulphite (7681-57-4)

4. First aid measures

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

Eyes: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

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Skin: IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse.

Ingestion: If swallowed, DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.

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

Indication of any immediate medical attention and special treatment needed:

Treatment: Strong alkalis bind tissue protein. Following initial flushing of the eye with water, continued irrigation of the eye with saline is recommended.

5. Firefighting measures

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special hazards arising from the substance or mixture

Hazardous Combustion Products: None (noncombustible)

Special Fire-Fighting Procedures: None (noncombustible)

Unusual Fire and Explosion Hazards: None.

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. Clean surface thoroughly to remove residual contamination.

Environmental precautions: No information available.

7. Handling and storage

Precautions for safe handling

Personal precautions: Avoid prolonged or repeated breathing of mist or vapour. Do not get in eyes and avoid contact with skin and clothing. Use only with adequate ventilation. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

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Prevention of Fire and Explosion: No special technical protective measures required.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed.

8. Exposure controls/personal protection

Occupational exposure controls: Not established

Appropriate engineering controls: 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.

Individual protection measures, such as personal protective equipment

Eye protection: Wear safety glasses with side shields (or goggles).

Hand protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Respiratory protection: None should be needed.

9. Physical and chemical properties

Physical form: liquid

Colour: No data available

Odour: No data available

Specific gravity: 1.0390

Vapour pressure: No data available

Vapour density: No data available

Water solubility: soluble

pH: 10.1

Flash point: None.

Evaporation rate: No data available

Flammability (Solid; gas): No data available

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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: None with common materials and contaminants with which the material may reasonably come into contact.

Hazardous decomposition products: None under normal conditions of use.

11. Toxicological information

Effects of Exposure

General advice:

Contains: Bis(hydroxylammonium) sulphate. Can cause blood disorders. Can cause cyanosis.
There is limited evidence of carcinogenicity in lifetime oral studies in rats.

Contains: 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate. May cause kidney damage based on animal data.

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Contains: Sodium metabisulphite. 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.

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

Eyes: Causes serious eye damage.

Skin: Causes skin irritation. May cause an allergic skin reaction.

Ingestion: Expected to be a low ingestion hazard.

Data for Potassium carbonate (CAS 584-08-7):

Acute Toxicity Data:

Oral LD50 (Rat): 1,870 mg/kg

Data for Potassium hydroxide (CAS 1310-58-3):

Acute Toxicity Data:

Oral LD50 (Rat): 273 mg/kg

- Oral LD50 (Rat): 284 mg/kg
- Skin irritation: Corrosive
- Eye irritation: Corrosive

Data for Bis(hydroxylammonium) sulphate (CAS 10039-54-0):

Acute Toxicity Data:

Oral LD50 (male Rat): 100 - 200 mg/kg

- Dermal study (24 hours): 10 mg/kg (target organ effects: red blood cell)
- Dermal LD50 (Guinea pig): > 1,000 mg/kg
- Dermal LD50 (Rabbit): 70 mg/kg
- Skin irritation: strong
- Skin Sensitization (Guinea pig): strong
- Eye irritation: slight

Data for 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate (CAS 25646-77-9):

Acute Toxicity Data:

Oral LD50 (male Rat): 25 - 50 mg/kg (target organ effects: kidney)

- Oral LD50 (female Rat): 30 mg/kg (target organ effects: kidney)
- Inhalation LC50 (Rat): > 0.164 mg/l / 6 hr
- Dermal absorption rate (Rat): 93.7 microgram(s)/cm²/hour (in vitro)
- Dermal LD50 (Guinea pig): > 2,000 mg/kg
- Skin irritation: moderate
- Skin Sensitization (human): positive

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- Skin Sensitization (Guinea pig): moderate to strong
- Eye irritation (unwashed eyes): moderate

Definitions for the following section(s): LOEL =lowest-observed-effect level, LOAEL = lowest-observed-adverse-effect, NOAEL = no observed-adverse-effect level, NOEL =no-observed-effect level.

Repeated dose toxicity:

- Oral (4 weeks, female Rat): NOEL; 1 mg/kg/day
- Oral (4 weeks, female Rat): Lowest observable effect level; 10 mg/kg/day (target organ effects: kidney)
- Oral (4 weeks, male Rat): NOEL; 10 mg/kg/day
- Oral (4 weeks, male Rat): Lowest observable effect level; > 10 mg/kg/day (target organ effects: kidney)
- Oral (90 days, Rat): NOEL; 1 mg/kg/day
- Oral (90 days, Rat): Lowest observable effect level; 5 mg/kg/day (target organ effects: kidney)

Data for Sodium metabisulphite (CAS 7681-57-4):

Acute Toxicity Data:

Oral LD50 (male Rat): 1,900 mg/kg

- Oral LD50 (female Rat): 1,130 mg/kg
- Oral LD50 (Rat): 1,310 mg/kg
- Dermal LD50: > 1,000 mg/kg
- Skin irritation: moderate (repeated skin application)
- Skin Sensitization: none (May cause sensitisation of susceptible persons by skin contact or by inhalation of dust.)
- Eye irritation: Risk of serious damage to eyes.

Definitions for the following section(s): LOEL =lowest-observed-effect level, LOAEL = lowest-observed-adverse-effect, NOAEL = no observed-adverse-effect level, NOEL =no-observed-effect level.

Repeated dose toxicity:

- Oral (14-day, Rat): NOEL; > 1105 mg/kg/day

Carcinogenicity

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.
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International Agency for Research on Cancer (IARC):	No component of this product present
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	at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
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):	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
California Prop. 65	This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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):	10 - 100 mg/l

Persistence and degradability: Readily biodegradable.

Bioaccumulative potential

No data available

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.

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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

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

U.S. - CERCLA/SARA (40 CFR § 302.4 Designation of hazardous substances):	No components of this product are subject to the SARA Section 302 (40 CFR 302.4) reporting requirements.
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.

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U.S. - CERCLA/SARA - Section 313 (40 CFR § 372.65 Toxic Chemical Release Reporting):	No components of this product are subject to the SARA Section 313 (40 CFR 372.65) reporting requirements.
U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances:	No components found on the California Director's List of Hazardous Substances.
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):	No components regulated under the Massachusetts Hazardous Substances Disclosure by Employers Law.
U.S. - Minnesota Employee Right-to-Know (5206.0400, Subpart 5. List of Hazardous Substances):	No components found on the Minnesota Employee Right-to-Know List of Hazardous Substances.
U.S. - New Jersey - Worker and Community Right to Know Act (N.J.S.A. 34:5A-1):	No components regulated under the New Jersey Worker and Community Right-to-Know Act.
U.S. - Pennsylvania - Part XIII. Worker and Community Right-to-Know Act (Chapter 323 Hazardous Substance List, Appendix A):	Water , Potassium carbonate , Potassium hydroxide

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 FLEXICOLOR LU Developer Replenisher LORR, Working Solution

Contains:

Potassium carbonate (584-08-7), Potassium hydroxide (1310-58-3), Bis(hydroxylammonium) sulphate (10039-54-0), 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate (25646-77-9)

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Symbol(s):



Signal word: Danger

Hazard statements: Causes skin irritation. Causes serious eye damage. May cause an allergic skin reaction.

Precautionary statements:

Prevention: Wear protective gloves/ eye protection/ face protection. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

Response: Immediately call a POISON CENTER or doctor/ physician. IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Take off contaminated clothing and wash before reuse.

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

FIRST AID: If symptomatic, move to fresh air. Get medical attention if symptoms occur. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash before reuse. If swallowed, DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately. **Note to Physicians:** Strong alkalis bind tissue protein. Following initial flushing of the eye with water, continued irrigation of the eye with saline is recommended. 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 extinguishing measures that are appropriate to local circumstances and the surrounding environment. **IN CASE OF SPILL:** Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

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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-3, F-0, C-0