

Safety Data Sheet

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

Product name: KODAK FLEXICOLOR LU Developer Replenisher LORR, Part B

Product code: 8231672 - Part B

Synonyms: PCD 5339

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
Corrosive to metals	Category 1	--
Acute oral toxicity	Category 4	--
Skin corrosion/irritation	Category 2	--
Serious eye damage/eye irritation	Category 2A	--
Skin sensitisation	Category 1	--
Target Organ Systemic Toxicant - Single exposure	Category 1	--
Carcinogenicity	Category 2	--

GHS-Labeling

Contains:

Bis(hydroxylammonium) sulphate (10039-54-0)

Symbol(s):

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Signal word: Danger

Hazard statements: May be corrosive to metals. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Causes damage to organs. (Blood.) Suspected of causing cancer.

Precautionary statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original container. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product.

Response: Absorb spillage to prevent material damage. If on skin: Wash with plenty of water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/ attention. Specific treatment (see supplemental first aid instructions on this label). IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/ attention if you feel unwell.

Storage: Store in corrosive resistant container with resistant liner.

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

Other hazards which do not result in classification:

Heat sensitive - can decompose if heated.

Dried product residue can act as a reducing agent.

REACTS WITH METALS

CONTENTS MAY DEVELOP PRESSURE UPON PROLONGED EXPOSURE TO HEAT

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

NFPA Hazard Ratings: Health - 3, Flammability - 0, Instability - 2

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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.)
25 - 30	Bis(hydroxylammonium) sulphate (10039-54-0)

4. First aid measures

Inhalation: If inhaled, remove 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. If eye irritation persists: Get medical advice/ attention.

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: 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: Absorption of this material into the body leads to the formation of methemoglobin that, in sufficient concentration, causes cyanosis. Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body, including scalp and nails, is of utmost importance. If cyanosis is severe, intravenous injection of methylene blue, one milligram per kilogram of body weight, may be of value.

5. Firefighting measures

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers.

Special hazards arising from the substance or mixture

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Hazardous Combustion Products: None (noncombustible), (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: Mixture contains a strong reducing agent. Reacts violently with oxidizing materials. Dried product residue can act as a reducing agent. May cause spontaneous heating and ignition when absorbed on combustible, porous material (e.g. rags, paper, sawdust, cotton, clothing). Elevated temperature can cause decomposition.

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. Collect in a noncombustible container for prompt disposal. Clean surface thoroughly to remove residual contamination.

Environmental precautions: Flush with plenty of water. Do not store in metal containers.

For Large Spills: Flush with plenty of water. Do not store in metal containers.

7. Handling and storage

Precautions for safe handling

Personal precautions: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Use only with adequate ventilation. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.

Prevention of Fire and Explosion: Keep away from heat and sources of ignition. Keep from any contact with metals. Remove and wash contaminated clothing promptly. Exercise caution if heating, especially in a closed container. Keep from contact with oxidizing materials, highly oxygenated or halogenated solvents, organic compounds containing reducible functional groups.

Conditions for safe storage, including any incompatibilities: Store in original container. Do not store in metal containers. Contents may develop pressure upon prolonged exposure to heat. Store in cool place. Keep container tightly closed to prevent the loss of water. Keep away from incompatible substances (see Incompatibility section.)

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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 eye/face protection.

Hand protection: Wear protective gloves.

Respiratory protection: If engineering controls do not maintain airborne concentrations to an acceptable level, an approved respirator must be worn. Respirator type: organic vapour. 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: colourless

Odour: odourless

Specific gravity: 1.16

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

Vapour density: 0.6

Boiling point/boiling range: decomposes before boiling

Water solubility: complete

pH: 3.0

Flash point: does not flash

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 in glass and plastic containers, however, becomes unstable in contact with metals. Materials containing similar structural groups can decompose if heated above 150°C (302°F). Safe handling temperatures are dependent on specific conditions of use and are typically substantially below the onset temperature. Consult your technical safety experts.

Possibility of hazardous reactions: Hazardous polymerisation does not occur.

Conditions to avoid: No data available

Incompatible materials: Acids, Halogenated compounds, Metals, Strong oxidizing agents. Material not stable in contact with metals.

Hazardous decomposition products: Ammonia, sulphur dioxide, Nitrogen oxides (NO_x)

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.

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

Eyes: Causes serious eye irritation.

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

Ingestion: Harmful if swallowed.

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

12. Ecological information

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

Potential Toxicity:

Toxicity to fish (LC50): < 1 mg/l

Toxicity to daphnia (EC50): Daphnia: < 1 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

The information given below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions. Please consult the product packaging for further details.

IATA:	UN number:	UN3264
	Proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Bis(hydroxylammonium) sulphate)
	Class:	8
	Packaging group:	III
	Marine Pollutant status:	Marine pollutant
	Marine Pollutant(s):	Bis(hydroxylammonium) sulphate
IMDG:	UN number:	UN3264
	Proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Bis(hydroxylammonium) sulphate)
	Class:	8
	Packaging group:	III
	Marine Pollutant status:	Marine pollutant
	Marine Pollutant(s):	Bis(hydroxylammonium) sulphate
US DOT:	UN number:	UN3264
	Proper shipping name:	CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Bis(hydroxylammonium) sulphate)
	Class:	8
	Packaging group:	III
	Marine Pollutant status:	Marine pollutant
	Marine Pollutant(s):	Bis(hydroxylammonium) sulphate

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

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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

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

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	(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.
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):	Bis(hydroxylammonium) sulphate
U.S. - Pennsylvania - Part XIII. Worker and Community Right-to-Know Act (Chapter 323 Hazardous Substance List, Appendix A):	Water , Bis(hydroxylammonium) sulphate

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.

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US/Canadian Label Statements:

KODAK FLEXICOLOR LU Developer Replenisher LORR, Part B

Contains:

Bis(hydroxylammonium) sulphate (10039-54-0)

Symbol(s):



Signal word: Danger

Hazard statements: May be corrosive to metals. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Causes damage to organs. (Blood.) Suspected of causing cancer.

Precautionary statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep only in original container. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wear protective gloves/ protective clothing/ eye protection/ face protection. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product.

Response: Absorb spillage to prevent material damage. If on skin: Wash with plenty of water. Take off contaminated clothing and wash before reuse. If skin irritation or rash occurs: Get medical advice/ attention. Specific treatment (see supplemental first aid instructions on this label). IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/ attention if you feel unwell.

Storage: Store in corrosive resistant container with resistant inliner.

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

FIRST AID: If inhaled, remove 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. If eye irritation persists: Get medical advice/ attention. 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

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wash before reuse. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. **Note to Physicians:** Absorption of this material into the body leads to the formation of methemoglobin that, in sufficient concentration, causes cyanosis. Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body, including scalp and nails, is of utmost importance. If cyanosis is severe, intravenous injection of methylene blue, one milligram per kilogram of body weight, may be of value. 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. Use water spray to cool unopened containers. **IN CASE OF SPILL:** Absorb spill with vermiculite or other inert material. Collect in a noncombustible container for prompt disposal. Clean surface thoroughly to remove residual contamination. For Large Spills: Flush with plenty of water. Do not store in metal containers. Additional Components Include: Water (7732-18-5) .

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-2, F-0, C-2HT