

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, Part C

Product code: 8231672 - Part C

Synonyms: PCD 3513

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 toxicity	Category 3	Oral
Skin irritation	Category 2	--
Eye irritation	Category 2A	--
Skin sensitisation	Category 1	--
Specific target organ toxicity - single exposure	Category 2	--
Specific target organ toxicity - single exposure	Category 3	--
Target Organ Systemic Toxicant - Repeated exposure	Category 2	--

GHS-Labeling

Contains:

4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate (25646-77-9), Sodium bisulphite (7631-90-5)

Symbol(s):

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Signal word: Danger

Hazard statements: May be corrosive to metals. Toxic if swallowed. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause damage to organs. (Kidney.) May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. (Kidney.)

Precautionary statements:

Prevention: Keep only in original container. Wear protective gloves/ eye protection/ face protection. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace.

Response: IF exposed or if you feel unwell: 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. 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 SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth. Take off contaminated clothing and wash before reuse. Absorb spillage to prevent material damage.

Storage: Store in corrosive resistant container with resistant inliner.

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

Other hazards which do not result in classification:

Poison, may be fatal or cause blindness if swallowed.

Heat sensitive - can decompose if heated.

MAY LIBERATE SULFUR DIOXIDE

The physical-chemical properties of this material have not been fully investigated.

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

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

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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.)
35 - 50	4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate (25646-77-9)
1 - 5	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. Call a POISON CENTER or doctor/ physician 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. Immediately call a POISON CENTER or doctor/ physician.

Skin: IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/ physician.

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.

Special hazards arising from the substance or mixture

Hazardous Combustion Products: Carbon oxides, Sulphur oxides, Nitrogen oxides (NO_x), (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. Use water spray to cool unopened containers.

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Unusual Fire and Explosion Hazards: 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 inert material, then place in a chemical waste container. Clean surface thoroughly to remove residual contamination.

Environmental precautions: No information available.

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. Keep container tightly closed. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Use only with adequate ventilation.

Prevention of Fire and Explosion: Keep away from heat and sources of ignition. Keep from contact with oxidizing materials.

Conditions for safe storage, including any incompatibilities: Store in cool place. Keep container tightly closed. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls/personal protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenedia mine sulfate	EK HPG	Time Weighted Average (TWA):	0.1 mg/m ³
Sodium bisulphite	ACGIH	time weighted average	5 mg/m ³
Sulphur dioxide	OSHA	Short term exposure limit	0.25 ppm
		time weighted average	5 ppm 13 mg/m ³

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.

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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: acid gas 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: pale yellow

Odour: strong sulphur dioxide

Specific gravity: 1.15 - 1.18

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: 2.1

Flash point: > 93.33 °C (> 200.0 °F) (estimated)

Evaporation rate: No data available

Flammability Limits: Not specified

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

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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: Not fully evaluated. Materials containing similar structural groups can decompose if heated.

Possibility of hazardous reactions: Hazardous polymerisation does not occur.

Conditions to avoid: No data available

Incompatible materials: Strong oxidizing agents, Strong bases, Acids, Metals. Contact with strong acids may liberate sulphur dioxide.

Hazardous decomposition products: Nitrogen oxides (NO_x), Sulphur oxides

11. Toxicological information

Effects of Exposure

General advice:

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

Inhalation: May cause respiratory irritation. Some asthmatics or hypersensitive individuals may experience difficulty breathing.

Eyes: Causes serious eye irritation.

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

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

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
- 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 bisulphite (CAS 7631-90-5):

Acute Toxicity Data:

Oral LD50 (rat): > 1,600 mg/kg

- Dermal LD50 (rat): 2,000 mg/kg
- Eye irritation (May irritate eyes.): mild

12. Ecological information

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

Potential Toxicity:

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

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

Persistence and degradability: Not readily biodegradable.

Although this substance is not expected to biodegrade, it is expected to degrade abiotically and not persist in the environment.

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.

14. Transport information

The information below is provided to assist in documentation. It represents the dangerous goods classification before any regulatory exceptions are taken (e.g. "limited quantity") and therefore may not represent the final classification. The final classification as it pertains to the product packaging configuration (including labeling, marking, and exceptions) may be obtained via the Dangerous Goods Worksheet which can be found at www.kodak.com/go/ship.

IATA: UN number: UN2922

Proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate)

Class: 8

Sub-risks: 6.1

Packaging group: III

Marine Pollutant status: Marine pollutant

Marine Pollutant(s): 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate

IMDG: UN number: UN2922

Proper shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate)

Class: 8

Sub-risks: 6.1

Packaging group: III

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Marine Pollutant status: Marine pollutant
Marine Pollutant(s): 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate

US DOT: UN number: UN2922

Proper shipping name: CORROSIVE LIQUIDS, TOXIC, N.O.S. (4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate)
Class: 8
Sub-risks: 6.1
Packaging group: III
Marine Pollutant status: Marine pollutant
Marine Pollutant(s): 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate

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):	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	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):	Sodium bisulphite
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:	Sodium bisulphite
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

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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):	Sodium bisulphite
U.S. - Minnesota Employee Right-to-Know (5206.0400, Subpart 5. List of Hazardous Substances):	Sodium bisulphite
U.S. - New Jersey - Worker and Community Right to Know Act (N.J.S.A. 34:5A-1):	Sodium bisulphite
U.S. - Pennsylvania - Part XIII. Worker and Community Right-to-Know Act (Chapter 323 Hazardous Substance List, Appendix A):	Water , 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate , 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 FLEXICOLOR LU Developer Replenisher LORR, Part C

Contains:

4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate (25646-77-9), Sodium bisulphite (7631-90-5)

Symbol(s):



Signal word: Danger

Hazard statements: May be corrosive to metals. Toxic if swallowed. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. May cause damage to organs. (Kidney.) May cause respiratory irritation. May cause damage to organs through prolonged or repeated exposure. (Kidney.)

Precautionary statements:

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Prevention: Keep only in original container. Wear protective gloves/ eye protection/ face protection. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace.

Response: IF exposed or if you feel unwell: 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. 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 SWALLOWED: Immediately call a POISON CENTER or doctor/ physician. Rinse mouth. Take off contaminated clothing and wash before reuse. Absorb spillage to prevent material damage.

Storage: Store in corrosive resistant container with resistant liner.

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. Call a POISON CENTER or doctor/ physician 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. Immediately call a POISON CENTER or doctor/ physician. IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/ attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/ physician. 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. **IN CASE OF SPILL:** Absorb spill with inert material, then place in a chemical waste container. Clean surface thoroughly to remove residual contamination. 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-2, S-2, F-1, C-1HT