

MATERIAL SAFETY DATA SHEET



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

Product name: KODAK FLEXICOLOR Developer Replenisher LORR, Part C

Product code: 6600522 - Part C

Manufacturer: KODAK (Wuxi) Company Limited, 18 Chang Jiang Road, New District, (Wuxi), 214028

Supplier: KODAK AUSTRALASIA Pty. Ltd., 181 Victoria Parade, Collingwood, Victoria, 3066

For Chemical Emergency Information, in Australia call 1800 033111 (24 hour service Australia-wide); in New Zealand call 0800 734 607 (24 hour service); in Asia call +86 21 63500836

For Other Information, call 61 3 9353 2222.

Synonyms: PCD 3513, F3513

Product Use: Professional colour film photographic processing solution

2. Composition/information on ingredients

Weight %	Components (CAS-No.)
50 - 55	Water (7732-18-5)
40 - 45	4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate (25646-77-9)
1 - 5	Sodium bisulphite (7631-90-5)

3. Hazards identification

STATEMENT OF HAZARDOUS NATURE: Hazardous according to criteria of NOHSC

Toxic. Toxic if swallowed. May cause sensitization by skin contact. Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Poisons Schedule: 6

Contains: 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate

4. First aid measures

Inhalation: If symptomatic, move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.

Eyes: If in eyes, wash out immediately with water. Get medical attention if symptoms occur.

Skin: If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Get medical attention if symptoms occur.

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

5. Fire-fighting measures

Hazchem Code: 2XE

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Extinguishing Media: water spray, alcohol-resistant foam, dry chemical, carbon dioxide (CO₂).

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.

Hazardous Combustion Products: Carbon oxides, nitrogen oxides (NO_x), sulfur oxides

Unusual Fire and Explosion Hazards: Elevated temperature can cause decomposition.

6. Accidental release measures

Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Contaminated absorbent should be disposed of in accordance with local regulations. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

Personal precautions: Do not get in eyes, on skin, or on clothing. Avoid breathing mist or vapour at concentrations greater than the exposure limits. Use with adequate ventilation. Wash thoroughly after handling.

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

Storage: 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
Sodium bisulphite	AU OEL	Time Weighted Average (TWA):	5 mg/m ³
Sodium bisulphite	ACGIH	Time Weighted Average (TWA):	5 mg/m ³
4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate	EK HPG	Time Weighted Average (TWA):	0.1 mg/m ³
Sodium bisulphite	NZ OEL	Time Weighted Average (TWA):	5 mg/m ³

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances such as poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc.

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 WORKSAFE AUSTRALIA standard AS/NZS 1716: 2003.

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

Skin and body protection: Wear impervious gloves and protective clothing appropriate for the risk of

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exposure.

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to condition of use.

9. Physical and chemical properties

Physical form: liquid

Colour: light yellow

Odour: strong sulphur dioxide

Specific gravity: 1.179

Vapour pressure: 24 mbar (18.0 mm Hg)

Vapour density: 0.6

Volatile fraction by weight: 50 - 55 %

Boiling point/range: > 100.0 °C (> 212.0 °F)

Water solubility: complete

pH: 2.1

Flash point: None.

10. Stability and reactivity

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

Incompatibility: Acids, strong bases, strong oxidizing agents. Contact with strong acids liberates sulphur dioxide.

Hazardous decomposition products: sulphur oxides.

Hazardous Polymerization: Hazardous polymerization does not occur.

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: Liberates sulphur dioxide gas which can cause irritation to the respiratory tract. Some asthmatics or hypersensitive individuals may experience difficult breathing.

Eyes: May be irritating.

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Skin: May be irritating. May cause sensitization by skin contact.

Ingestion: Toxic if swallowed. Harmful: danger of serious damage to health by prolonged exposure if swallowed.

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)
- Oral LD50 (mouse): 141 mg/kg (target organ effects: kidney)
- Inhalation LC50 (rat): > 164 mg/m³ / 6 hr
- Dermal absorption rate (rat): 93.7 microgram(s)/cm²/hour (in vitro)
- Dermal LD50: > 2,000 mg/kg
- Skin irritation: moderate
- Skin irritation: moderate irritation (repeated skin application)
- Skin Sensitization (human): positive
- Eye irritation (unwashed eyes): moderate
- Eye irritation (washed eyes): slight

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): LOEL; 10 mg/kg/day (target organ effects: kidney)
- Oral (4 weeks, male rat): NOEL; 10 mg/kg/day
- Oral (4 weeks, male rat): LOEL; > 10 mg/kg/day (target organ effects: kidney)
- Oral (90 days, rat): NOEL; 1 mg/kg/day
- Oral (90 days, rat): LOEL; 5 mg/kg/day (target organ effects: kidney)

12. Ecological information

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

Potential Toxicity:

Fish LC50: < 1 mg/l

Daphnid EC50: 1 - 10 mg/l

Algal IC50: 1 - 10 mg/l

Waste treatment organisms EC50: > 100 mg/l

Organics Readily Degradable: Not readily biodegradable

Potential Bioaccumulation: log Pow < 1

COD (approximate): 683 g/l

BOD (approximate): 73 g/l

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

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 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.

ADG: 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: II

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: II

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: II

15. Regulatory information

Poisons Schedule: 6

Carcinogenicity Classification (components present at 0.1% or more):

International Agency for Research on Cancer (IARC): Sodium bisulphite: 3 (not classifiable as to carcinogenicity to humans), Sulphur dioxide: 3 (Classification not possible from current data.)
American Conference of Governmental Industrial Hygienists (ACGIH): Sodium bisulphite: Group A4 (Not classifiable as a human carcinogen.), Sulphur dioxide: Group A4 (Not classifiable as a human carcinogen.)
U.S. National Toxicology Program (NTP): none
U.S. Occupational Safety and Health Administration (OSHA): none
Worksafe Australia: none

16. Other information

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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. The actual label information will depend upon the intended use of the product. Worksafe Australia labeling appears for commercial/industrial use.

Worksafe Australia Labeling:

Contains: 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate 44.08 %

pH: 1-3



Symbol/Indication of Danger:

T: Toxic

Risk Phrases:

R25: Toxic if swallowed.
R43: May cause sensitization by skin contact.
R48/22: Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Safety Phrases:

S37: Wear suitable gloves.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National Health and Medical Research Council Standard for the Uniform Scheduling of Drugs and Poisons Labeling:

POISON
KEEP OUT OF REACH OF CHILDREN
READ SAFETY DIRECTIONS BEFORE OPENING OR USING

Contains: 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulfate

Safety Phrases: Avoid contact with skin or eyes. Avoid breathing dust (or) vapour (or) spray mist.

First aid: For advice, contact a Poisons Information Centre (Australia 13 1126; New Zealand 0800 764 766) or a doctor. Urgent hospital treatment is likely to be needed. If swallowed, do NOT induce vomiting. If in eyes, wash out immediately with water. If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

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.

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R-2, S-3, F-1, C-1HT