Material Safety Data Sheet

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

Product name: KODAK EKTACOLOR RA Developer Replenisher RT, Part B

Product code: 8477184 - Part B

Supplier: EASTMAN KODAK COMPANY, 343 State Street, Rochester, New York 14650

For Emergency Health, Safety & Environmental Information, call (585) 722-5151 (USA)

For further information about this product, call (800) 242-2424.

Synonyms: PCD 6157

Product Use: photographic processing chemical, For industrial use only.

2. Hazards identification

CONTAINS: 4-(N-ethyl-N-2-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate (25646-71-3), Potassium sulphite (10117-38-1), Lithium sulphate (10377-48-7)

WARNING!
HARMFUL IF SWALLOWED
MAY BE HARMFUL IF INHALED
CAUSES SKIN AND EYE IRRITATION
MAY CAUSE ALLERGIC SKIN REACTION
DUST, MIST OR VAPOUR IRRITATING TO THE EYES AND RESPIRATORY TRACT
CAN CAUSE CNS EFFECTS
MAY CAUSE KIDNEY DAMAGE BASED ON ANIMAL DATA
THE TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED

HMIS III Hazard Ratings: Health - 2*, Flammability - 1, Physical Hazard - 0

NFPA Hazard Ratings: Health - 3, Flammability - 1, 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.)
15 - 20	4-(N-ethyl-N-2-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate (25646-71-3)
5 - 10	Lithium sulphate (10377-48-7)
0.1 - < 1	Potassium sulphite (10117-38-1)

4. First aid measures

Inhalation: If inhaled, remove to fresh air. Get medical attention.

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention. If easy to do, remove contact lens, if worn.

Skin: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes.

Ingestion: If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately.

5. Fire-fighting measures

Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.

Hazardous Combustion Products: Carbon oxides, nitrogen oxides (NOx), Sulphur oxides, (see also Hazardous Decomposition Products sections.)

Unusual Fire and Explosion Hazards: None.

6. Accidental release measures

Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

Personal precautions: Do not breathe vapours or spray mist. Keep container tightly closed. Use only with adequate ventilation. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Prevention of Fire and Explosion: Keep from contact with oxidizing materials.

Storage: 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-methanesulphonylaminoethyl)-2-	EK HPG	Time Weighted Average (TWA):	1.0 mg/m3

methylphenylenedia mine sesquisulphate monohydrate			
Sulphur dioxide	ACGIH	Short term exposure limit	0.25 ppm
	OSHA	time weighted average	5 ppm 13 mg/m3

Ventilation: 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.

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.

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

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

9. Physical and chemical properties

Physical form: liquid

Colour: tan

Odour: sharp sulphur dioxide

Specific gravity: 1.14

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: 1.4

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

10. Stability and reactivity

Stability: Stable under normal conditions.

Incompatibility: Strong oxidizing agents, Metals.

Hazardous decomposition products: nitrogen oxides (NOx), Sulphur oxides, lithium oxides

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

General advice: The toxicological properties of this material have not been fully investigated and its handling and use may be hazardous.

Contains: 4-(N-ethyl-N-2-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate. May cause kidney damage based on animal data.

Contains: Lithium sulphate. The toxicological properties of this material have not been fully investigated and its handling and use may present additional hazards. This material is pharmacologically active. Can cause CNS effects.

Inhalation: May be harmful if inhaled. Airborne dust/mist/vapor irritating.

Eyes: Causes eye irritation. Airborne dust/mist/vapor irritating.

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

Ingestion: Harmful if swallowed. May cause irritation of the gastrointestinal tract 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-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate (CAS 25646-71-3):

Acute Toxicity Data:
Oral LD50 (male rat): 400 mg/kg (target organ effects: kidney)

- Oral LD50 (female rat): 246 mg/kg
- Dermal LD50: > 1,000 mg/kg (highest dose tested)
- Skin irritation: moderate (repeated skin application)
- Skin Sensitization (guinea pig): moderate
- 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.

Carcinogenicity:

- Oral study (hamster, 2 years): NOEL; 0.04 % in diet (highest dose tested)

Data for Lithium sulphate (CAS 10377-48-7):

Acute Toxicity Data:
Oral LD50 (mouse): 1,190 mg/kg

- Dermal LD50: > 1,000 mg/kg
- Skin irritation: moderate

Data for Potassium sulphite (CAS 10117-38-1):

Acute Toxicity Data:
Oral LD50 (rat): > 3,200 mg/kg

- Oral LD50 (mouse): > 3,200 mg/kg
- Dermal LD50 (guinea pig): > 20,000 mg/kg
- Skin irritation: slight to moderate

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):	Daphnia: 10 - 100 mg/l
Persistence and degradability:	Not readily biodegradable.

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.

IATA:	UN number:	UN3265
	Proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (4-(N-ethyl-N-2-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate)
	Class:	8
	Packaging group:	III
IMDG:	UN number:	UN3265
	Proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (4-(N-ethyl-N-2-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate)
	Class:	8
	Packaging group:	III
US DOT:	UN number:	UN3265
	Proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (4-(N-ethyl-N-2-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate)

Class:	8
Packaging group:	III

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

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 (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):	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):	Lithium sulphate, 4-(N-ethyl-N-2-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate, Water
U.S. - Rhode Island - Title 28 Labor and Labor Relations	No components regulated under the

(Chapters 28-21 Hazardous Substance Right-to-Know Act):	Rhode Island Hazardous Substance Right-to-Know Act.

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 EKTACOLOR RA Developer Replenisher RT, Part B
CONTAINS: 4-(N-ethyl-N-2-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate (25646-71-3), Potassium sulphite (10117-38-1), Lithium sulphate (10377-48-7).
WARNING! HARMFUL IF SWALLOWED. MAY BE HARMFUL IF INHALED. CAUSES SKIN AND EYE IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. DUST, MIST OR VAPOUR IRRITATING TO THE EYES AND RESPIRATORY TRACT. CAN CAUSE CNS EFFECTS. MAY CAUSE KIDNEY DAMAGE BASED ON ANIMAL DATA. THE TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED.
Do not breathe vapours or spray mist. Keep container tightly closed. Use only with adequate ventilation. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. **FIRST AID:** If inhaled, remove to fresh air. Get medical attention. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention. If easy to do, remove contact lens, if worn. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash contaminated clothing before re-use. Destroy or thoroughly clean contaminated shoes. If swallowed, only induce vomiting as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician or poison control centre immediately. 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 vermiculite or other inert material, then place in a container for chemical waste. Clean surface thoroughly to remove residual contamination. Additional Components Include: Water (7732-18-5), Magnesium sulphate (7487-88-9).

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-0