Material Safety Data Sheet

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

Product name: KODAK Bleach Replenisher, Process E-6 and Process E-6AR

Product code: 8192395

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 5879

Product Use: Professional photographic processing solution, For industrial use only.

2. Hazards identification

CONTAINS: Ammonium bromide (12124-97-9), Potassium nitrate (7757-79-1), Hydrobromic acid (10035-10-6), Ethylenediaminetetraacetic acid (60-00-4)

WARNING!
CAUSES EYE IRRITATION
MIST OR VAPOR IRRITATING TO EYES AND RESPIRATORY TRACT
PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE DRYING, CRACKING, OR IRRITATION
MAY BE HARMFUL IF SWALLOWED

HMIS III Hazard Ratings: Health - 2, Flammability - 0, Reactivity (Stability) - 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.)
10 - 15	Ammonium ferric ethylenediaminetetraacetic acid (21265-50-9)
10 - 15	Ammonium bromide (12124-97-9)
1 - 5	Potassium nitrate (7757-79-1)
1 - 5	Ethylenediaminetetraacetic acid (60-00-4)
1 - < 5	Hydrobromic acid (10035-10-6)

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.

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

5. Fire-fighting measures

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

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

Hazardous Combustion Products: None (noncombustible), (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 mist or vapour at concentrations greater than the exposure limits. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Use only with adequate ventilation. Wash thoroughly after handling.

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

Storage: Keep container tightly closed. Do not store in metal containers. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls/personal protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
Ammonium ferric ethylenediaminetetra acetic acid	ACGIH	time weighted average	1 mg/m3
			Expressed as Fe

Hydrobromic acid		Ceiling Limit Value	2 ppm
	OSHA	time weighted average	3 ppm 10 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. 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: For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

9. Physical and chemical properties

Physical form: liquid

Colour: no data available

Odour: no data available

Specific gravity: no data available

Vapour pressure: no data available

Vapour density: no data available

Volatile fraction by weight: 70 - 75 %

Boiling point/boiling range: no data available

Water solubility: no data available

pH: no data available

Flash point: does not flash

10. Stability and reactivity

Stability: Stable under normal conditions.

Incompatibility: Corrosive in contact with metals

Hazardous decomposition products: Carbon oxides, nitrogen oxides (NOx), hydrogen bromide

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

General advice:

Contains: Ammonium ferric ethylenediaminetetraacetic acid. This compound can chelate metals and may alter calcium and other cation balances.

Contains: Ammonium bromide. Ingestion of bromide salts can cause nausea, vomiting, headache, irritability, delirium, memory loss, decreased appetite, joint pain, hallucinations, stupor, coma, and acne like rash on face, legs, and trunk.

Contains: Potassium nitrate. Under some circumstances methemoglobinemia may occur when nitrates are converted by bacteria in the stomach to nitrites.

Contains: Ethylenediaminetetraacetic acid. This compound can chelate metals and may alter calcium and other cation balances.

Inhalation: Mist or vapour irritating.

Eyes: Causes eye irritation. Mist or vapour irritating.

Skin: Prolonged or repeated contact may cause drying, cracking, or irritation.

Ingestion: May be harmful if swallowed.

Data for Ammonium bromide (CAS 12124-97-9):

Acute Toxicity Data:
Oral LD50 (rat): 2,700 mg/kg
- Dermal LD50 (rat): > 2,000 mg/kg
- Skin irritation: irritating

Data for Potassium nitrate (CAS 7757-79-1):

Acute Toxicity Data:
Oral LD50 (rat): 1,600 - 3,200 mg/kg (10% in water)
- Dermal LD50 (guinea pig): 1,000 mg/kg
- Skin irritation: slight

Data for Hydrobromic acid (CAS 10035-10-6):

Acute Toxicity Data:
- Inhalation LC50 (rat): 2858 ppm / 1 hr

Data for Ethylenediaminetetraacetic acid (CAS 60-00-4):

Acute Toxicity Data:
Oral LD50 (rat): > 3,200 mg/kg
- Inhalation LCLo (rat): 1.48 MG/KG / 7 hr

- Dermal LD50 (guinea pig): > 1,000 mg/kg
- Skin irritation: slight
- Eye irritation: Irritating to eyes.

12. Ecological information

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

Potential Toxicity:

Toxicity to fish (LC50):	> 100 mg/l
Toxicity to daphnia (EC50):	> 100 mg/l

Persistence and degradability: 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. (Ethylenediaminetetraacetic acid)
	Class:	8
	Packaging group:	III
IMDG:	UN-Number:	UN3265
	Proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Ethylenediaminetetraacetic acid)
	Class:	8
	Packaging group:	III
US DOT:	UN-Number:	UN3265
	Proper shipping name:	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Ethylenediaminetetraacetic acid)
	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	Not all listed
NDSL	Listed
EINECS	All listed
ELINCS	None listed
NLP	None listed
AICS	All listed
IECS	All listed
ENCS	Not all listed
ECI	Not 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):	Group 2A - Probably Carcinogenic to Humans: Potassium nitrate
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):	OSHA Carcinogen or Potential Carcinogen: Potassium nitrate
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):	Ethylenediaminetetraacetic acid
U.S. - CERCLA/SARA - Section 302 (40 CFR § 355 Appendices A and B - The List of Extremely Hazardous	No components of this product are subject to the SARA Section 302

Substances and Their Threshold Planning Quantities):	(40 CFR 355) reporting requirements.
U.S. - CERCLA/SARA - Section 313 (40 CFR § 372.65 Toxic Chemical Release Reporting):	Ammonium bromide, Ammonium ferric ethylenediaminetetraacetic acid, Potassium nitrate
U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances:	Hydrobromic acid, Ammonium ferric ethylenediaminetetraacetic acid, Ethylenediaminetetraacetic acid
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):	Hydrobromic acid, Ammonium bromide, Ethylenediaminetetraacetic acid, Potassium nitrate
U.S. - Minnesota Employee Right-to-Know (5206.0400, Subpart 5. List of Hazardous Substances):	Hydrobromic acid, Ammonium ferric ethylenediaminetetraacetic acid
U.S. - New Jersey - Worker and Community Right to Know Act (N.J.S.A. 34:5A-1):	Hydrobromic acid, Ethylenediaminetetraacetic acid, Potassium nitrate
U.S. - Pennsylvania - Part XIII. Worker and Community Right-to-Know Act (Chapters 301-323):	Hydrobromic acid, Ammonium bromide, Ammonium ferric ethylenediaminetetraacetic acid, Ethylenediaminetetraacetic acid, Water, Potassium nitrate
U.S. - Rhode Island - Title 28 Labor and Labor Relations (Chapters 28-21 Hazardous Substance Right-to-Know Act):	Hydrobromic acid, Ammonium bromide, Ammonium ferric ethylenediaminetetraacetic acid, Potassium nitrate

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 Bleach Replenisher, Process E-6 and Process E-6AR
CONTAINS: Ammonium bromide (12124-97-9), Potassium nitrate (7757-79-1), Hydrobromic acid (10035-10-6), Ethylenediaminetetraacetic acid (60-00-4).

WARNING! CAUSES EYE IRRITATION. MIST OR VAPOR IRRITATING TO EYES AND RESPIRATORY TRACT. PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE DRYING, CRACKING, OR IRRITATION. MAY BE HARMFUL IF SWALLOWED.
Do not breathe mist or vapour at concentrations greater than the exposure limits. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Use only with adequate ventilation. 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. 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, DO NOT induce vomiting. Call a physician or poison control centre immediately. Never give anything by mouth to an unconscious person. 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. Additional Components Include: Water (7732-18-5), Ammonium ferric ethylenediaminetetraacetic acid (21265-50-9).

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-0, C-0