Material Safety Data Sheet

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

Product name: KODAK FLEXICOLOR SM Processing Unit F2/C-41SM Version 2.1, Bleach

Product code: 6601462 - Bleach

Supplier: KODAK AUSTRALASIA Pty. Ltd., Level 2, 436 Johnston Street, Abbotsford, Victoria, 3067

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 8417 8000.

Synonyms: PCD 6317

Product Use: photographic processing chemical (bleach/bleach fixer), For industrial use only.

2. Hazards identification

STATEMENT OF HAZARDOUS NATURE: Not classified as hazardous according to criteria of Australian Safety and Compensation Council

Contains no scheduled poisons

3. Composition/information on ingredients

Weight percent	Components (CAS-No.)
10 - 15	Ferric ammonium propylenediaminetetraacetic acid (111687-36-6)
5 - 10	Ammonium nitrate (6484-52-2)
5 - 10	Ammonium bromide (12124-97-9)
1 - <5	Succinic acid (110-15-6)

4. First aid measures

Inhalation: If symptomatic, move to fresh air. Get medical attention if symptoms occur.

Eyes: Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility.

Skin: Wash off with soap and water. Get medical attention if symptoms occur.

Ingestion: Get medical attention if symptoms occur.

Notes to physician:

Symptoms: If signs and symptoms of cyanosis are present, treat for methemoglobinemia.

5. Fire-fighting measures

Hazchem Code: 1Y

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), oxides of iron, (see also Hazardous Decomposition Products sections.)

Unusual Fire and Explosion Hazards: Fire or high temperatures may 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: Avoid breathing mist or vapour at concentrations greater than the exposure limits. Do not get in eyes and avoid contact with skin and clothing. Use only with adequate ventilation. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Prevention of Fire and Explosion: Keep away from heat and sources of ignition. 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
Ferric ammonium propylenediaminetetraacetic acid	Exposure Standards	time weighted average	1 mg/m3 *Expressed as Fe*
Ferric ammonium propylenediaminetetraacetic acid	WEL	time weighted average	1 mg/m3 *Expressed as Fe*

Ventilation: 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.

Respiratory protection: None should be needed. 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: If a full-face respirator is not worn, wear vapour-tight chemical goggle and a face shield.

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: green

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

Volatile fraction by weight: 65 - 70 %

Boiling point/boiling range: > 100 °C (> 212.0 °F)

Water solubility: complete

pH: 4

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

Flammability Limits: Not specified

10. Stability and reactivity

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

Incompatibility: Strong bases, sodium hypochlorite (bleach), Oxidizing agents, Metals Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas). Contact with base liberates flammable material. Contact with base liberates ammonia.

Hazardous decomposition products: Ammonia, chloramine, hydrogen bromide, nitrogen oxides (NOx), oxides of iron.

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

General advice:

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

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

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.

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

Eyes: No specific hazard known. May cause transient irritation.

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

Ingestion: Expected to be a low ingestion hazard.

Data for Ferric ammonium propylenediaminetetraacetic acid (CAS 111687-36-6):

Acute Toxicity Data:
Oral LD50 (male rat): 2,828 mg/kg
- Oral LD50 (female rat): 4,000 mg/kg
- Skin irritation: slight
- Skin Sensitization: none
- Eye irritation (unwashed eyes): slight
- Eye irritation (washed eyes): none

Mutagenicity/Genotoxicity Data:
Salmonella-E. coli/Mammalian-Microsome Reverse Mutation Assay (TA1535, TA1537, TA1538, TA98, TA100): negative (in presence and absence of activation)
- CHO/HGPRT assay: positive (in presence of activation)
- CHO/HGPRT assay: negative (in absence of activation)
- Mouse lymphoma assay: negative (in presence and absence of activation)

Data for Ammonium nitrate (CAS 6484-52-2):

Acute Toxicity Data:
Oral LD50 (rat): 2,217 mg/kg
- Inhalation LC50 (rat): > 88.8 mg/l / 4 hr

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 Succinic acid (CAS 110-15-6):

Acute Toxicity Data:
Oral LD50 (rat): 2,260 mg/kg
- Eye irritation: severe

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
Toxicity to algae (IC50):	10 - 100 mg/l
Toxicity to other organisms (EC50):	> 100 mg/l (sludge)
Persistence and degradability:	Not readily biodegradable.
Chemical Oxygen Demand (COD):	ca. 281 g/l
Biochemical Oxygen Demand (BOD):	ca. 39 g/l

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:	UN1760
	Proper shipping name:	CORROSIVE LIQUID, N.O.S. (Ammonium bromide)
	Class:	8
	Packaging group:	III
IATA:	UN-Number:	UN1760
	Proper shipping name:	CORROSIVE LIQUID, N.O.S. (Ammonium bromide)
	Class:	8
	Packaging group:	III
IMDG:	UN-Number:	UN1760
	Proper shipping name:	CORROSIVE LIQUID, N.O.S. (Ammonium bromide)
	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	Not 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.

Poisons Schedule: Not specified

Australian Safety and Compensation Council: none

Other regulations

Australia National Model Regulations for the Control of Scheduled Carcinogenic Substances	No components listed

16. Other information

Australian Safety and Compensation Council Labeling:

Not classified as hazardous according to criteria of Australian Safety and Compensation Council

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

CONTAINS NO SCHEDULED POISONS
First aid: No first aid instructions are recommended for labelling purposes.

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.