SAFETY DATA SHEET

Kodak alaris

1. Identification

Product identifier **KODAK FLEXICOLOR SM Processing Unit F2/C-41SM Version 2.1**

Other means of identification

Product code 1173319BLEACH

SDS No. PCD 6317

Recommended use of the chemical and restrictions on use

Recommended use Photographic processing chemical. (bleach/bleach fixer).

Restrictions on use Not available.

Details of manufacturer or importer

Supplier Kodak Alaris Australia Pty Limited

Address Ground Floor, 2 Domville Avenue
Hawthorn, Victoria 3122
Australia

e-mail EHS-Questions@Kodakalaris.com

Emergency telephone number (02) 90372994

2. Hazard(s) identification

Classification of the hazardous chemical

Physical hazards	Corrosive to metals	Category 1
Health hazards	Serious eye damage/eye irritation	Category 1
	Specific target organ toxicity following single exposure	Category 2
Environmental hazards	Not classified.	

Label elements, including precautionary statements

Hazard symbol(s)

Corrosion Health hazard

Signal word Danger

Hazard statement(s) May be corrosive to metals. Causes serious eye damage. May cause damage to organs.

Precautionary statement(s)

Prevention Keep only in original container. Do not breathe mist or vapour. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear eye protection/face protection.

Response 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 CENTRE or doctor/physician.

Storage Store locked up. Store in corrosive resistant container with a resistant inner liner.

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

Other hazards which do not result in classification None known.

Supplemental information None.

3. Composition/information on ingredients

Mixture

Identity of chemical ingredients	CAS number and other unique identifiers	Concentration of ingredients
Ammonium bromide	12124-97-9	5 - 10
Ammonium nitrate	6484-52-2	5 - 10
Succinic acid	110-15-6	1 - < 5
Ammonia, aqueous solution	1336-21-6	< 0.2

4. First-aid measures

Description of necessary first aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact Wash with plenty of soap and water. Get medical attention if irritation develops and persists.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control centre immediately. Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Personal protection for first-aid responders If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

Symptoms caused by exposure Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Not available.

Medical attention and special treatment Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. Not available.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media Water spray. Dry chemicals. Carbon dioxide (CO2). Foam.

Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical During fire, gases hazardous to health may be formed. Nitrogen oxides (NOx). Carbon oxides.

Special protective equipment and precautions for fire fighters Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.

Fire fighting equipment/instructions Move containers from fire area if you can do so without risk.

Hazchem code 2X

General fire hazards Can decompose at elevated temperatures. Dried product residue can act as a reducing agent.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

For emergency responders Keep unnecessary personnel away. Use personal protection recommended in Section 8 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

Methods and materials for containment and cleaning up

Prevent entry into waterways, sewer, basements or confined areas.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

7. Handling and storage

Precautions for safe handling

Do not breathe mist or vapour. Do not get this material in contact with eyes. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container.

8. Exposure controls and personal protection

Control parameters

Follow standard monitoring procedures.

Occupational exposure limits

Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)

Components	Type	Value
Ammonia, aqueous solution (CAS 1336-21-6)	STEL	24 mg/m3
		35 ppm
	TWA	17 mg/m3
		25 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Ammonia, aqueous solution (CAS 1336-21-6)	STEL	35 ppm
	TWA	25 ppm

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Ammonia, aqueous solution (CAS 1336-21-6)	STEL	25 mg/m3
		35 ppm
	TWA	18 mg/m3
		25 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

No exposure standards allocated.

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection

Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear suitable protective clothing. Use of an impervious apron is recommended.

Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Liquid.
Colour	Green
Odour	odorless
Odour threshold	Not available.
pH	4
Melting point/freezing point	Not available.
Initial boiling point and boiling range	> 100 °C (> 212 °F)
Flash point	> 93.3 °C (> 200.0 °F)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	18 mm Hg
Vapour density	0.6
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Complete
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other physical and chemical parameters	
Explosive properties	Not explosive.
Oxidising properties	Not oxidising.
Specific gravity	1.16

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidising agents. Strong bases. Sodium hypochlorite (bleach). Metals. Strong reducing agents. Combustible material. Contact with sodium hypochlorite (bleach) may form chloramine (toxic gas). Material can react violently with combustible materials or strong reducing agents.

Hazardous decomposition products	Carbon oxides. Ammonia. Chloramine. Hydrogen bromide. Nitrogen oxides (NOx). oxides of iron

11. Toxicological information

Information on possible routes of exposure

Inhalation	Expected to be a low hazard for recommended handling.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye damage.
Ingestion	Expected to be a low ingestion hazard.
Symptoms related to exposure	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Acute toxicity

Components	Species	Test Results
Ammonia, aqueous solution (CAS 1336-21-6)		
Acute		
Oral		
LD50	Rat	350 mg/kg
Ammonium bromide (CAS 12124-97-9)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg
Oral		
LD50	Rat	2714 mg/kg
Ammonium nitrate (CAS 6484-52-2)		
Acute		
Inhalation		
LC50	Rat	> 88.8 mg/l, 4 Hours
Oral		
LD50	Rat	2217 mg/kg
Succinic acid (CAS 110-15-6)		
Acute		
Oral		
LD50	Rat	2260 mg/kg

Skin corrosion/irritation	Prolonged skin contact may cause temporary irritation.
Serious eye damage/irritation	Causes serious eye damage.
Respiratory or skin sensitisation	
Respiratory sensitisation	Not a respiratory sensitizer.
Skin sensitisation	This product is not expected to cause skin sensitisation.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Not available.
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.
Specific target organ toxicity - single exposure	May cause damage to organs.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product		Species	Test Results
KODAK FLEXICOLOR SM Processing Unit F2/C-41SM Version 2.1			
Aquatic			
Crustacea	EC50	Daphnia	7042.2534 mg/l, 48 hours estimated
Fish	LC50	Fish	10000 mg/l, 96 hours estimated

Components		Species	Test Results
Ammonia, aqueous solution (CAS 1336-21-6)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	15 mg/l, 96 hours

Persistence and degradability Not readily biodegradable.

Bioaccumulative potential

Mobility in soil Not available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal methods Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

ADG

- **UN number** 1760
- **UN proper shipping name** Corrosive liquid, n.o.s.
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -
- **Packing group** III
- **Environmental hazards** Not available.
- **Hazchem code** 2X
- **Special precautions for user** Not available.

IATA

- **UN number** 1760
- **UN proper shipping name** Corrosive liquid, n.o.s. (Ammonium bromide, Succinic acid)
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -
- **Packing group** III
- **Environmental hazards** No.
- **ERG Code** 8L
- **Special precautions for user** Not available.
- **Other information**
  - **Passenger and cargo aircraft** Allowed with restrictions.
  - **Cargo aircraft only** Allowed with restrictions.

IMDG

- **UN number** 1760
- **UN proper shipping name** CORROSIVE LIQUID, N.O.S. (Ammonium bromide, Succinic acid)
- **Transport hazard class(es)**
  - **Class** 8
  - **Subsidiary risk** -

Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-A, S-B
Special precautions for user	Not available.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not established.

ADG

IATA; IMDG

15. Regulatory information

Safety, health and environmental regulations

National regulations This Safety Data Sheet was prepared in accordance with Australia Model Code of Practice for the preparation of Safety Data Sheets for Hazardous Chemicals (23/12/2011).

Australia Medicines & Poisons Appendix A

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix B

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix D

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix E

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix F

Ammonia, aqueous solution (CAS 1336-21-6)

Australia Medicines & Poisons Appendix G

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix H

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix I

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix J

Poisons schedule number not allocated.

Australia Medicines & Poisons Appendix K

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 10

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 2

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 3

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 4

TRADE SECRET (CAS Proprietary)

Australia Medicines & Poisons Schedule 5

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 6

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 7

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 8

Poisons schedule number not allocated.

Australia Medicines & Poisons Schedule 9

Poisons schedule number not allocated.

Australia National Pollutant Inventory (NPI): Threshold quantity

Ammonia, aqueous solution (CAS 1336-21-6)	10 TONNES/YR Threshold Category: 1

High Volume Industrial Chemicals (HVIC)

TRADE SECRET (CAS Proprietary)	100000 - 999999 TONNES See the regulation for additional information.

Importation of Ozone Deleting Substances (Customs(Prohibited imports) Regulations 1956, Schedule 10)

Not listed.

National Pollutant Inventory (NPI) substance reporting list

Not listed.

Prohibited Carcinogenic Substances

Not regulated.

Prohibited Substances (National Model Regulation for the control of Workplace Hazardous Substances, Schedule 2 NOHSC:1005 (1994) as amended)

Not listed.

Resricted Importation of Organochlorine Chemicals (Customs(Prohibited Imports) Regulations 1956, Schedule 9)

Not listed.

Restricted Carcinogenic Substances

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto Protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	No

Country(s) or region	Inventory name	On inventory (yes/no)*
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date 09-January-2017

Revision date 18-September-2018

Disclaimer Kodak Alaris cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

Revision information Regulatory Information: Other