Material Safety Data Sheet

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

Product name: KODAK PROFESSIONAL Film Cement

Product code: 1956176

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 30104

Product Use: cement, For industrial use only.

2. Hazards identification

CONTAINS: 1,4-Dioxane (123-91-1), Dichloromethane (75-09-2), Acetone (67-64-1), Methanol (67-56-1), Cellulose nitrate (9004-70-0)

DANGER!
FLAMMABLE LIQUID AND VAPOR
HEAT SENSITIVE - CAN DECOMPOSE IF HEATED
FORMS EXPLOSIVE PEROXIDES
CONTACT WITH ACID LIBERATES TOXIC GAS
HARMFUL IF INHALED, ABSORBED THROUGH SKIN, OR SWALLOWED
CAUSES SKIN AND EYE IRRITATION
HIGH VAPOR CONCENTRATIONS MAY CAUSE DROWSINESS AND IRRITATION OF THE EYES OR RESPIRATORY TRACT
NOTICE! DELIBERATE CONCENTRATION AND INHALATION OF VAPORS MAY BE HARMFUL OR FATAL
CAN CAUSE CNS EFFECTS
CAN CAUSE CARDIOVASCULAR EFFECTS
CAN CAUSE LIVER DAMAGE
CAN CAUSE KIDNEY DAMAGE
POSSIBLE CANCER HAZARD - MAY CAUSE CANCER BASED ON ANIMAL DATA

HMIS III Hazard Ratings: Health - 2*, Flammability - 3, Reactivity (Stability) - 1

NFPA Hazard Ratings: Health - 4, Flammability - 3, Instability - 1

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.)
45 - 50	1,4-Dioxane (123-91-1)
25 - 30	Dichloromethane (75-09-2)
15 - 20	Acetone (67-64-1)
1 - 5	Cellulose nitrate (9004-70-0)
1 - 4	Methanol (67-56-1)

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. If easy to do, remove contact lens, if worn. 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, 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.

Notes to physician:

Treatment: Overexposure may sensitize the myocardium to epinephrine and/or increase myocardial irritability. Unless the benefits of epinephrine administration outweigh the potential serious side effects, the use of epinephrine may be contraindicated. If administration of epinephrine is necessary, electrocardiographic monitoring during and after administration is recommended.

5. Fire-fighting measures

Extinguishing Media: Water spray, Carbon dioxide (CO2), Dry chemical, Foam. Use water spray to cool unopened containers.

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products. Fight fire from a protected location. USE WATER WITH CAUTION. Water may be ineffective.

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

Unusual Fire and Explosion Hazards: Flammable Material contains a flammable solvent that may accumulate in the container headspace. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Prevent buildup of vapours or gases to explosive concentrations. Elevated temperature can cause decomposition. May form peroxides of unknown stability.

6. Accidental release measures

Remove all sources of ignition. Absorb spill with inert material, then place in a chemical waste container. Clean surface thoroughly to remove residual contamination.

For Large Spills: Use water spray to disperse vapours and dilute spill to a nonflammable mixture. Prevent runoff from entering drains, sewers, or streams.

7. Handling and storage

Personal precautions: Do not breathe mist or vapour at concentrations greater than the exposure limits. Keep container tightly closed. Use with adequate ventilation. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling.

Cleaning Precautions: If accidentally mixed with a strong oxidizer or acid, do not breathe gas.

Prevention of Fire and Explosion: Keep away from heat, light, sparks, and flame. Use only with adequate ventilation. Exercise caution if heating, especially in a closed container. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of flammable liquids. Keep from contact with oxidizing materials. If peroxide formation is suspected, do not open or move container. Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Do not distill or allow to evaporate to near dryness.

Storage: Keep containers tightly closed in a cool, well-ventilated place. Store in cool place. Do not freeze. Protect against light. Protect from contamination. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls/personal protection

Occupational exposure controls

Chemical Name	Regulatory List	Value Type	Value
1,4-Dioxane	ACGIH	time weighted average	20 ppm
		Skin - potential significant contribution to overall exposure by the cutaneous route	
	OSHA	time weighted average	100 ppm 360 mg/m3
		prevent or reduce skin absorption	
Methanol	ACGIH	time weighted average	200 ppm
		Short term exposure limit	250 ppm
		Skin - potential significant contribution to overall exposure by the cutaneous route	
	OSHA	time weighted average	200 ppm 260 mg/m3
Acetone	ACGIH	time weighted average	500 ppm
		Short term exposure limit	750 ppm
	OSHA	time weighted average	1,000 ppm 2,400 mg/m3
Dichloromethane	EK HPG	Time Weighted Average (TWA):	50 ppm
		Short Term Exposure Limit (STEL):	200 ppm
	ACGIH	time weighted average	50 ppm
	OSHA	time weighted average	25 ppm
		Short term exposure limit	125 ppm
			15 min

time weighted average	25 ppm *8 h*
Action Level	12.5 ppm *Remarks: See 29 CFR 1910.1052*
Short term exposure limit	125 ppm *Remarks: See 29 CFR 1910.1052*

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. A respirator should be worn if hazardous decomposition products are likely to be or have been released. Respirator type: full-face positive-pressure air-supplied. 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: yellow

Odour: pungent

Specific gravity: 1.033

Vapour pressure (at 20.0 °C (68.0 °F)) : 209 mbar (156.8 mm Hg)

Vapour density: no data available

Volatile fraction by weight: 98 %

Boiling point/boiling range: 49 °C (120.2 °F)

Water solubility: insoluble

pH: not applicable

Flash point: -6.67 °C (20.0 °F) (Tag open cup)

10. Stability and reactivity

Stability: Stable; however, forms peroxides that may explode on concentration. Safe handling temperatures are dependent on specific conditions of use and are typically substantially below the onset temperature. Consult your technical safety experts. Materials containing similar structural groups can decompose if heated.

Incompatibility: Strong oxidizing agents, Reducing agents, Halogenated compounds, Strong acids, Strong bases, Metals, Aluminium.

Hazardous decomposition products: Phosgene, hydrogen chloride

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

General advice:

Contains: 1,4-Dioxane. Possible cancer hazard. May cause cancer based on animal data. Can cause liver damage. Can cause kidney damage.

Contains: Dichloromethane. Possible cancer hazard. May cause cancer based on animal data. Can cause CNS effects. May cause liver damage based on animal data. May cause an increase in carboxyhemoglobin levels. Individuals with cardiovascular disease may be more susceptible to possible adverse effects from elevated carboxyhemoglobin levels.

Contains: Acetone. Extensive human experience and animal data indicate that acetone is of low toxicity. However, ingestion of very large amounts or inhalation of extremely high vapour concentrations can cause irritation, nausea, vomiting, confusion, drowsiness, convulsions, and coma with possible liver and kidney injury.

Contains: Methanol. Prolonged and repeated exposure to high vapour concentrations, skin absorption or ingestion of methyl alcohol may result in visual disturbances, metabolic acidosis, headache, giddiness, nausea, insomnia, gastric disturbance, dizziness, and slow breathing. There have been several cases reported of blindness, coma and death due to the ingestion of methyl alcohol.

Inhalation: Harmful if inhaled. High vapour concentrations may cause drowsiness and irritation. Deliberate concentration and inhalation of vapours may be harmful or fatal.

Eyes: Causes eye irritation. High vapour concentrations may cause irritation.

Skin: Harmful if absorbed through skin. Causes skin irritation.

Ingestion: Harmful if swallowed. May cause irritation of the gastrointestinal tract. May cause abdominal pain with vomiting, nausea, diarrhea, or dizziness.

Data for 1,4-Dioxane (CAS 123-91-1):

Acute Toxicity Data:
Oral LD50 (mouse): 3,200 - 6,400 mg/kg

- Oral LD50 (rat): 4,200 mg/kg
- Inhalation LC50 (rat): 46.0 mg/l /
- Inhalation LC50 (mouse): 37.0 mg/l /
- Dermal LD50 (rabbit): 7,858.4 mg/kg

- Skin irritation: none
- Eye irritation: moderate

Data for Dichloromethane (CAS 75-09-2):

Acute Toxicity Data:
Oral LD50 (rat): 800 - 1,600 mg/kg
- Inhalation LC50 (rat): < 57 mg/l / 6 hr
- Skin irritation: severe
- Skin Sensitization: negative
- Eye irritation: mild

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:
- Inhalation (24 months, rat): NOEL; 500 ppm

Data for Acetone (CAS 67-64-1):

Acute Toxicity Data:
Oral LD50: 4,000 - 8,000 mg/kg
- Inhalation LC50 (rat): 32000 ppm / 4 hr
- Dermal LD50: 20,000 mg/kg
- Skin irritation: Mild skin irritation

Data for Methanol (CAS 67-56-1):

Acute Toxicity Data:
Oral LD50 (rat): 6,200 mg/kg
- Inhalation LC50 (rat): 83.2 mg/l / 4 hr
- Inhalation LC50 (rat): 64000 ppm / 4 hr
- Dermal LD50 (guinea pig): 7,910 - 15,820 mg/kg
- Skin irritation: Skin irritation
- Skin Sensitization: slight
- Eye irritation: slight to moderate

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):	> 100 mg/l

Toxicity to other organisms (EC50): > 100 mg/l (sludge)

Persistence and degradability: Readily biodegradable.

Chemical Oxygen Demand (COD): ca. 1533 g/l

Biochemical Oxygen Demand (BOD): ca. 380 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.

	Proper shipping name:	
IMDG:	UN number:	UN1133
	Proper shipping name:	ADHESIVES
	Class:	3
	Packaging group:	II
US DOT:	UN number:	UN1133
	Proper shipping name:	ADHESIVES
	Class:	3
	Packaging group:	II

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
TSCA 12(b)	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):	A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans: 1,4-Dioxane, Dichloromethane
International Agency for Research on Cancer (IARC):	Group 2B - Possibly Carcinogenic to Humans: 1,4-Dioxane, Dichloromethane
U.S. National Toxicology Program (NTP):	Reasonably Anticipated To Be A Human Carcinogen: 1,4-Dioxane, Dichloromethane
U.S. Occupational Safety and Health Administration (OSHA):	OSHA Carcinogen or Potential Carcinogen: 1,4-Dioxane, Dichloromethane
California Prop. 65	WARNING! This product contains a chemical known in the State of California to cause cancer.
U.S. - CERCLA/SARA (40 CFR § 302.4 Designation of hazardous substances):	1,4-Dioxane, Methanol, Acetone, Dichloromethane
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):	1,4-Dioxane, Methanol, Dichloromethane
U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances:	1,4-Dioxane, Methanol, Acetone, Dichloromethane
U.S. - California - 8 CCR Section 5200-5220 - Specifically Regulated Carcinogens:	Dichloromethane
U.S. - California - 8 CCR Section 5203 Carcinogens:	Dichloromethane
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	1,4-Dioxane, Methanol, Acetone,

111F) - Hazardous Substances Disclosure by Employers (a.k.a. Right to Know Law):	Dichloromethane, Cellulose nitrate
U.S. - Minnesota Employee Right-to-Know (5206.0400, Subpart 5. List of Hazardous Substances):	1,4-Dioxane, Methanol, Acetone, Dichloromethane
U.S. - New Jersey - Worker and Community Right to Know Act (N.J.S.A. 34:5A-1):	1,4-Dioxane, Methanol, Acetone, Dichloromethane, Cellulose nitrate
U.S. - Pennsylvania - Part XIII. Worker and Community Right-to-Know Act (Chapters 301-323):	1,4-Dioxane, Methanol, Acetone, Dichloromethane, Cellulose nitrate
U.S. - Rhode Island - Title 28 Labor and Labor Relations (Chapters 28-21 Hazardous Substance Right-to-Know Act):	1,4-Dioxane, Methanol, Acetone, Dichloromethane, Cellulose 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 PROFESSIONAL Film Cement
CONTAINS: 1,4-Dioxane (123-91-1), Dichloromethane (75-09-2), Acetone (67-64-1), Methanol (67-56-1), Cellulose nitrate (9004-70-0).
DANGER! FLAMMABLE LIQUID AND VAPOR. HEAT SENSITIVE - CAN DECOMPOSE IF HEATED. FORMS EXPLOSIVE PEROXIDES. CONTACT WITH ACID LIBERATES TOXIC GAS. HARMFUL IF INHALED, ABSORBED THROUGH SKIN, OR SWALLOWED. CAUSES SKIN AND EYE IRRITATION. HIGH VAPOR CONCENTRATIONS MAY CAUSE DROWSINESS AND IRRITATION OF THE EYES OR RESPIRATORY TRACT. NOTICE! DELIBERATE CONCENTRATION AND INHALATION OF VAPORS MAY BE HARMFUL OR FATAL. CAN CAUSE CNS EFFECTS. CAN CAUSE CARDIOVASCULAR EFFECTS. CAN CAUSE LIVER DAMAGE. CAN CAUSE KIDNEY DAMAGE. POSSIBLE CANCER HAZARD - MAY CAUSE CANCER BASED ON ANIMAL DATA.
Keep away from heat, light, sparks, and flame. Store away from heat and light. Keep container tightly closed. Store in cool place. Do not allow to evaporate to near dryness. Do not freeze. Avoid heat or contamination. Residual vapours may explode on ignition; do not cut, drill, grind, or weld on or near this container. Do not breathe vapours or spray mist. 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. If easy to do, remove contact lens, if worn. 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, 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. **Note to Physicians:** Overexposure may sensitize the myocardium to epinephrine and/or increase myocardial irritability. Unless the benefits of epinephrine administration outweigh the potential serious side effects, the use of epinephrine may be contraindicated. If administration of epinephrine is necessary, electrocardiographic monitoring during and after administration is recommended. 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:** Water spray, Carbon dioxide (CO2), Dry chemical, Foam. Use water spray to cool unopened containers. **IN CASE OF SPILL:** Remove all sources of ignition. Absorb

spill with inert material, then place in a chemical waste container. Clean surface thoroughly to remove residual contamination. For Large Spills: Use water spray to disperse vapours and dilute spill to a nonflammable mixture. Prevent runoff from entering drains, sewers, or streams. Additional Components Include: Cellulose nitrate (9004-70-0).

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-3, C-2HET CARC