

MATERIAL SAFETY DATA SHEET

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

Product name: KODAK Farmer's Reducer, Part A

Product code: 1691492 - Part A

Manufacturer: KODAK LIMITED, Acornfield Road, Liverpool, L33 7UF; EASTMAN KODAK COMPANY, 343 State Street, Rochester, New York, 14650

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

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

For other information or to request an MSDS, call (800) 242-2424.

Synonyms: PCD 14200

2. Hazards identification

CONTAINS: Potassium ferricyanide (13746-66-2)

WARNING!

CAN DECOMPOSE AT ELEVATED TEMPERATURES

CONTACT WITH ACID LIBERATES FLAMMABLE MATERIAL

CONTACT WITH ACID LIBERATES TOXIC GAS

POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES

CAUSES EYE IRRITATION

HMIS III Hazard Ratings: Health - 1, Flammability - 1, Physical Hazard - 1

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

NOTE: HMIS III and NFPA 704 (2001) 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. An asterisk (*), in the HMIS III health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight %	Components (CAS-No.)
100	Potassium ferricyanide (13746-66-2)

4. First aid measures

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

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

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

Ingestion: Get medical attention if symptoms occur.

5. Fire-fighting measures

Extinguishing Media: water spray, carbon dioxide (CO₂), dry chemical.

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 (NO_x), (see also Hazardous Decomposition Products section).

Unusual Fire and Explosion Hazards: Fire or high temperatures may cause decomposition. Dust may form explosive mixture in air.

6. Accidental release measures

Methods for cleaning up: Shovel into suitable container for disposal. Avoid dust formation. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

Personal precautions: Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Keep away from heat and sources of ignition. Dust may form explosive mixture in air. Minimize dust generation and accumulation. Ensure adequate ventilation. Refer to NFPA 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids." Keep from contact with oxidizing materials.

Storage: Keep away from acids. Keep container tightly closed. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls / personal protection

Occupational exposure controls: Not established

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. A full-face positive-pressure air-supplied respirator must be worn if hazardous decomposition products are likely to be released or have been released. See Stability and Reactivity Section. See Stability and Reactivity Section. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

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

Skin and body protection: For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to condition of use.

9. Physical and Chemical Properties

Physical form: solid

Colour: red

Odour: odourless

Specific gravity: 1.89

Vapour pressure: negligible

Vapour density: not applicable

Volatile fraction by weight: negligible

Melting point/range: Decomposes

Water solubility: appreciable

pH: not applicable

Flash point: not applicable

10. Stability and reactivity

Stability: Stable under normal conditions. Safe handling temperatures are dependent on specific conditions of use and are typically substantially below the onset temperature. Consult your technical safety experts.

Exotherm onset temperature: 317 °C by DSC

Incompatibility: Strong oxidizing agents, strong acids, ammonia. Contact with acid liberates flammable material. Contact with acids liberates toxic gas. Contact with acids liberates hydrogen cyanide.

Hazardous decomposition products: nitrogen oxides (NO_x), hydrogen cyanide.

Hazardous Polymerization: Hazardous polymerization does not occur.

11. Toxicological information

Effects of Exposure

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Inhalation: Expected to be a low hazard for recommended handling. If cyanide gas is liberated due to contact with a strong acid, it may cause dizziness, headache, rapid pulse, unconsciousness, convulsions and death.

Eyes: Causes eye irritation. However, immediate flushing of the eyes with water will minimize any irritative effect.

Skin: Low hazard for recommended handling.

Ingestion: Expected to be a low ingestion hazard.

Acute Toxicity Data:

- Oral LD50 (rat): 2,263 mg/kg
- Dermal LD50: 1,000 mg/kg
- Skin irritation: slight
- 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.

Repeated dose toxicity:

- Feeding study (13-day, rat): NOEL; 101 mg/kg/day (target organ effects: blood)

12. Ecological information

Data for this material were used to estimate its environmental impact.

Potential Toxicity:

Fish LC50:	> 100 mg/l
Daphnid EC50:	1 - 10 mg/l
Algal IC50:	No data available
Waste treatment organisms EC50:	No data available
Organics Readily Degradable:	Not applicable
Potential Bioaccumulation:	log Pow < 1
COD (approximate):	605 g/l
BOD (approximate):	20 g/l

13. Disposal considerations

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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

Not regulated for all modes of transportation.

For more transportation information, go to: www.kodak.com/go/ship.

15. Regulatory information

U.S. California Prop. 65: none

Carcinogenicity Classification (components present at 0.1% or more):

International Agency for Research on Cancer (IARC): none

American Conference of Governmental Industrial Hygienists (ACGIH): none

U.S. National Toxicology Program (NTP): none

U.S. Occupational Safety and Health Administration (OSHA): none

Chemical(s) subject to the reporting requirements of U.S. Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372: none

16. Other information

US/Canadian Label Statements:

CONTAINS: Potassium ferricyanide (13746-66-2)

WARNING!

CAN DECOMPOSE AT ELEVATED TEMPERATURES

CONTACT WITH ACID LIBERATES FLAMMABLE MATERIAL

CONTACT WITH ACID LIBERATES TOXIC GAS

POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES

CAUSES EYE IRRITATION

Minimize dust generation and accumulation.

Ensure adequate ventilation.

Keep container tightly closed.

Avoid breathing dust.

Avoid contact with eyes, skin, and clothing.

Wash thoroughly after handling.

FIRST AID: If inhaled, move to fresh air. Get medical attention if symptoms occur. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention. Wash off with soap and water.

Keep out of reach of children.

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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, carbon dioxide (CO₂), dry chemical.

IN CASE OF SPILL: Shovel into suitable container for disposal. Avoid dust formation. Clean surface thoroughly to remove residual contamination.

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-1, S-1, F-1, C-1T

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

Product name: KODAK Farmer's Reducer, Part B

Product code: 1691492 - Part B

Manufacturer: KODAK LIMITED, Acornfield Road, Liverpool, L33 7UF; EASTMAN KODAK COMPANY, 343 State Street, Rochester, New York, 14650

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

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

For other information or to request an MSDS, call (800) 242-2424.

Synonyms: PCD 10377

2. Hazards identification

CONTAINS: Sodium thiosulphate (7772-98-7)

WARNING!

REDUCING AGENT

POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES

THE TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED

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

NFPA Hazard Ratings: Health - 2, Flammability - 1, Instability - 0

NOTE: HMIS III and NFPA 704 (2001) 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. An asterisk (*), in the HMIS III health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

3. Composition/information on ingredients

Weight %	Components (CAS-No.)
100	Sodium thiosulphate (7772-98-7)

4. First aid measures

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

Eyes: Any material that contacts the eye should be washed out immediately with water. Get medical attention if symptoms occur.

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

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Ingestion: Get medical attention if symptoms occur.

5. Fire-fighting measures

Extinguishing Media: water spray, carbon dioxide (CO₂), dry chemical. Flush with plenty of water.

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

Hazardous Combustion Products: sulphur oxides

Unusual Fire and Explosion Hazards: Reducing agent. Reacts violently with oxidizing materials. Accumulations of powdered material may self-heat upon exposure to air. Dust may form explosive mixture in air.

6. Accidental release measures

Methods for cleaning up: Collect in a noncombustible container for prompt disposal. Avoid dust formation. Clean surface thoroughly to remove residual contamination.

For Large Spills: Flush with plenty of water.

7. Handling and storage

Personal precautions: Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Ensure adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Dust may form explosive mixture in air. Minimize dust generation and accumulation. Ensure adequate ventilation. Keep away from sources of ignition. Refer to NFPA 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids." Keep from contact with oxidizing materials, highly oxygenated or halogenated solvents, organic compounds containing reducible functional groups. Remove and wash contaminated clothing promptly.

Storage: Store in original container. Keep container tightly closed. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls / personal protection

Occupational exposure controls: Not established

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 to an acceptable level, an approved respirator must be worn. Respirator type: N95 Particulate Filter. If respirators are used, a program should be instituted to assure compliance with

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applicable federal, state, commonwealth, provincial, or local laws and regulations.

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

Skin and body protection: For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

Recommended Decontamination Facilities: Safety shower, eye wash, washing facilities as appropriate to condition of use.

9. Physical and Chemical Properties

Physical form: solid (crystalline)

Colour: white

Odour: odourless

Specific gravity: 1.67

Vapour pressure: negligible

Vapour density: not applicable

Volatile fraction by weight: negligible

Melting point/range: No data available

Water solubility: appreciable

pH: not applicable

Flash point: not applicable

10. Stability and reactivity

Stability: Stable under normal conditions.
No exotherm to 440 °C by HPDTA

Incompatibility: Acids, halogenated compounds, oxidizing agents, amines, metals.

Hazardous decomposition products: sulphur oxides.

Hazardous Polymerization: Hazardous polymerization does not occur.

11. Toxicological information

Effects of Exposure

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General advice: The toxicological properties of this material have not been fully investigated and its handling and use may present additional hazards. Expected to be a low health hazard for recommended handling.

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

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

Skin: Low hazard for recommended handling.

Ingestion: Expected to be a low ingestion hazard.

Acute Toxicity Data:

- Oral LD50 (rat): > 5,000 mg/kg
- Skin irritation: slight

12. Ecological information

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

Potential Toxicity:

Fish LC50: > 100 mg/l

Daphnid EC50: > 100 mg/l

Algal IC50: > 100 mg/l

Waste treatment organisms EC50: > 100 mg/l

Organics Readily Degradable: not applicable

Potential Bioaccumulation: $\log Pow < 1$

COD (approximate): 420 g/l

BOD (approximate): 335 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

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15. Regulatory information

U.S. California Prop. 65: none

Carcinogenicity Classification (components present at 0.1% or more):

International Agency for Research on Cancer (IARC): none
American Conference of Governmental Industrial Hygienists (ACGIH): none
U.S. National Toxicology Program (NTP): none
U.S. Occupational Safety and Health Administration (OSHA): none

Chemical(s) subject to the reporting requirements of U.S. Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372: none

16. Other information

US/Canadian Label Statements:

CONTAINS: Sodium thiosulphate (7772-98-7)

WARNING!

REDUCING AGENT

POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES

THE TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED

Store in original tightly closed container.

Keep from contact with clothing and other combustible materials. Remove and wash contaminated clothing promptly.

Minimize dust generation and accumulation.

Ensure adequate ventilation.

Avoid breathing dust.

Avoid contact with eyes, skin, and clothing.

Wash thoroughly after handling.

FIRST AID: If inhaled, move to fresh air. Wash off with soap and water. Get medical attention if symptoms occur.

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, carbon dioxide (CO₂), dry chemical. Flush with plenty of water.

IN CASE OF SPILL: Collect in a noncombustible container for prompt disposal. Avoid dust formation. Clean surface thoroughly to remove residual contamination.

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R-1, S-1, F-1, C-1