

Material Safety Data Sheet

Revision Date: 09/04/2013
EPM1778869/Version: 1.1
Page: 1/8

EPM
Eastman Park Micrographics, Inc.

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

Product name: IMAGELINK Microfilm Developer Replenisher

Product code: 1778869, 1118869 and 1111917

Supplier: Eastman Park Micrographics, 100 Latona Road, Bld 318, Rochester, New York 14652-3621

For Emergency Health, Safety & Environmental Information, call (800) 352-8378 (USA)

For further information about this product, call (585) 500-4400 or (866) 934-4376.

Synonyms: PCD 4541

Product Use: photographic processing chemical (developer/activator), For industrial use only.

2. Hazards identification

CONTAINS: Potassium sulphite (10117-38-1), Diethylene glycol (111-46-6), Potassium bromide (7758-02-3), 4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone (13047-13-7)

WARNING!

HARMFUL IF SWALLOWED

MAY CAUSE EYE IRRITATION

MAY CAUSE ALLERGIC SKIN REACTION

CAN CAUSE KIDNEY DAMAGE AND CNS EFFECTS FOLLOWING INGESTION

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 %	Components - (CAS-No.)
20 - 25	Potassium sulphite (10117-38-1)
5 - 10	Diethylene glycol (111-46-6)
1 - 5	Potassium carbonate (584-08-7)
1 - 5	Potassium bromide (7758-02-3)
0.1 - < 1	4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone (13047-13-7)

4. First aid measures

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

Material Safety Data Sheet

Revision Date: 09/04/2013
EPM1778869/Version: 1.1
Page: 2/8



Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention. If easy to do, remove contact lens, if worn.

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: Avoid breathing mist or vapour at concentrations greater than the exposure limits. Avoid contact with eyes, 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: No special technical protective measures required.

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
Sulphur dioxide	ACGIH	Short term exposure limit	0.25 ppm
	OSHA	time weighted average	5 ppm 13 mg/m3

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.

Material Safety Data Sheet

Revision Date: 09/04/2013
EPM1778869/Version: 1.1
Page: 3/8

EPM
Eastman Park Micrographics, Inc.

Supplementary local exhaust ventilation, closed systems, or respiratory protection may be needed in special circumstances.

Respiratory protection: None should be needed. A respirator must be worn if hazardous decomposition products are likely to be or have been released. Respirator type: organic vapour/P95. 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: clear yellow

Odour: odourless

Specific gravity: 1.34

Vapour pressure (at 20.0 °C (68.0 °F)) : 24 mbar (18.0 mm Hg)

Vapour density: 0.6

Volatile fraction by weight: 50 - 55 %

Boiling point/boiling range: 100.0 °C (212.0 °F)

Water solubility: complete

pH: 11.5

Flash point: does not flash

10. Stability and reactivity

Stability: Stable under normal conditions.

Incompatibility: Strong oxidizing agents, Acids. Contact with strong acids liberates sulphur dioxide.

Hazardous decomposition products: Sulphur oxides

Hazardous Polymerization: Hazardous polymerisation does not occur.

11. Toxicological information

Effects of Exposure

General advice:

Material Safety Data Sheet

Revision Date: 09/04/2013
EPM1778869/Version: 1.1
Page: 4/8



Contains: Diethylene glycol. Can cause kidney damage and CNS effects following ingestion. Repeated oral exposure to high doses can cause liver damage.

Contains: 4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone. May cause adverse reproductive effects such as infertility based on animal data. Based on repeated-dose ingestion studies in animals, this chemical may cause blood, testicular, and adverse reproductive effects.

Inhalation: Expected to be a low hazard for recommended handling. Some asthmatics or hypersensitive individuals may experience difficulty breathing if exposed to aerosols or decomposition products that are not anticipated during normal use.

Eyes: May cause eye irritation.

Skin: May cause allergic skin reaction based on human experience.

Ingestion: Harmful if swallowed. May cause irritation of the gastrointestinal tract. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Data for Potassium sulphite (CAS 10117-38-1):

Acute Toxicity Data:

Oral LD50 (rat): > 3,200 mg/kg

- Dermal LD50 (guinea pig): > 20,000 mg/kg
- Skin irritation: slight to moderate

Data for Diethylene glycol (CAS 111-46-6):

Acute Toxicity Data:

Oral LD50 (rat): > 3,200 mg/kg

- Dermal LD50 (rabbit): > 10,000 mg/kg
- Skin irritation: slight to moderate
- Eye irritation: mild

Mutagenicity/Genotoxicity Data:

Ames test: negative (in presence and absence of activation)

Data for Potassium carbonate (CAS 584-08-7):

Acute Toxicity Data:

Oral LD50 (rat): 1,870 mg/kg

Data for 4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone (CAS 13047-13-7):

Acute Toxicity Data:

Oral LD50 (rat): 566 mg/kg

- Dermal LD50: > 1,000 mg/kg
- Skin irritation: slight
- Skin irritation: slight exacerbation (repeated skin application)
- Skin Sensitization: slight

Material Safety Data Sheet

Revision Date: 09/04/2013
EPM1778869/Version: 1.1
Page: 5/8



- Eye irritation (unwashed eyes): strong
- Eye irritation (washed eyes): slight to moderate

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:

- Oral (12-day, rat): NOEL; 88 mg/kg/day
- Oral (12-day, rat): LOEL (Lowest observable effect level); 440 mg/kg/day (target organ effects: blood, target organ effects: testes)
- Oral (28-day, rat): NOEL; 10 mg/kg/day
- Oral (28-day, rat): LOEL (Lowest observable effect level); 40 mg/kg/day (target organ effects: blood, target organ effects: testes)

Data for Potassium bromide (CAS 7758-02-3):

Acute Toxicity Data:

Oral LD50 (rat): > 1,600 mg/kg

- Skin irritation: none
- 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

Not regulated for all modes of transportation.

15. Regulatory information

Notification status

Material Safety Data Sheet



Revision Date: 09/04/2013
EPM1778869/Version: 1.1
Page: 6/8

Regulatory List	Notification status
TSCA	Not all listed
DSL	Not all listed
NDSL	None listed
EINECS	Not all listed
ELINCS	None listed
NLP	None listed
AICS	Not all listed
IECS	Not all listed
ENCS	Not all listed
ECI	Not all listed
NZIoC	Not all listed
PICCS	Not 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 Eastman Park Micrographics .

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):	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
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):	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
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):	No components of this product are subject to the SARA Section 302 (40 CFR 302.4) reporting

Material Safety Data Sheet



Revision Date: 09/04/2013
EPM1778869/Version: 1.1
Page: 7/8

U.S. - CERCLA/SARA - Section 302 (40 CFR § 355 Appendices A and B - The List of Extremely Hazardous Substances and Their Threshold Planning Quantities):	requirements. 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):	No components of this product are subject to the SARA Section 313 (40 CFR 372.65) reporting requirements.
U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances:	No components found on the California Director's List of Hazardous Substances.
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):	No components regulated under the Massachusetts Hazardous Substances Disclosure by Employers Law.
U.S. - Minnesota Employee Right-to-Know (5206.0400, Subpart 5. List of Hazardous Substances):	Diethylene glycol
U.S. - New Jersey - Worker and Community Right to Know Act (N.J.S.A. 34:5A-1):	No components regulated under the New Jersey Worker and Community Right-to-Know Act.
U.S. - Pennsylvania - Part XIII. Worker and Community Right-to-Know Act (Chapters 301-323):	Potassium sulphite, Diethylene glycol, Potassium hydroxide, Water, 1,4-Benzenediol, monopotassium salt
U.S. - Rhode Island - Title 28 Labor and Labor Relations (Chapters 28-21 Hazardous Substance Right-to-Know Act):	Diethylene glycol

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:

IMAGELINK Microfilm Developer Replenisher

CONTAINS: Potassium sulphite (10117-38-1), Diethylene glycol (111-46-6), Potassium bromide (7758-02-3), 4-hydroxymethyl-4-methyl-1-phenyl-3-pyrazolidinone (13047-13-7).

Material Safety Data Sheet

Revision Date: 09/04/2013
EPM1778869/Version: 1.1
Page: 8/8



WARNING! HARMFUL IF SWALLOWED. MAY CAUSE EYE IRRITATION. MAY CAUSE ALLERGIC SKIN REACTION. CAN CAUSE KIDNEY DAMAGE AND CNS EFFECTS FOLLOWING INGESTION.

Avoid breathing mist or vapour at concentrations greater than the exposure limits. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Wash thoroughly after handling. **FIRST AID:** If symptomatic, 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. If easy to do, remove contact lens, if worn. 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), 1,4-Benzenediol, monopotassium salt (52688-73-0).

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-1, S-2, F-0, C-0