

# Material Safety Data Sheet



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

**Product name:** KODAK MICRODOL-X Developer

**Product code:** 1969724

**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 5642

**Product Use:** Black and white film and paper photographic processing solution, For consumer and industrial use.

## 2. Hazards identification

**CONTAINS:** Sodium sulphite (7757-83-7), Bis(4-hydroxy-N-methylanilinium) sulphate (55-55-0)

### WARNING!

**MAY CAUSE BLOOD DISORDERS BASED ON ANIMAL DATA**

**MAY CAUSE CYANOSIS BASED ON ANIMAL DATA**

**MAY BE HARMFUL IF INHALED OR SWALLOWED**

**MAY LIBERATE SULFUR DIOXIDE**

**DUST, MIST OR VAPOUR IRRITATING TO THE EYES AND RESPIRATORY TRACT**

**CAUSES SKIN AND EYE IRRITATION**

**MAY CAUSE ALLERGIC SKIN REACTION**

**NFPA Hazard Ratings:** Health - 3, Flammability - 0, Instability - 0

NOTE: NFPA 704 (2007) hazard indexes involves data review and interpretation that may vary among companies. It is 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.)
70 - 75	Sodium sulphite (7757-83-7)
1 - 5	Bis(4-hydroxy-N-methylanilinium) sulphate (55-55-0)

## 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:** 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 center immediately.

## 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 section).

**Unusual Fire and Explosion Hazards:** None.

## 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 at concentrations greater than the exposure limits. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Keep container tightly closed. Wash thoroughly after handling.

**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	time weighted average	2 ppm
	ACGIH	Short term exposure limit	5 ppm
	OSHA Z1	Permissible exposure limit	5 ppm 13 mg/m3
	ACGIH	time weighted average	2 ppm
	ACGIH	Short term exposure limit	5 ppm
	OSHA Z1	Permissible exposure limit	5 ppm 13 mg/m3

**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

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occupational exposure limits are not exceeded.

**Respiratory protection:** None should be needed. If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: full-face cartridge respirator; acid gas with dust/mist prefilter. A respirator should be worn if hazardous decomposition products are likely to be or have been released. Respirator type: Acid gas. 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.

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

**Skin and body protection:** Wear impervious gloves and protective clothing appropriate for the risk of exposure.

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

## 9. Physical and Chemical Properties

**Physical form:** solid

**Colour:** tan

**Odour:** odourless

**Specific gravity:** No data available

**Vapour pressure:** negligible

**Vapour density:** not applicable

**Volatile fraction by weight:** negligible

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

**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.

**Incompatibility:** Contact with strong acids liberates sulphur dioxide.

**Hazardous decomposition products:** hydrogen chloride, sulphur oxides.

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**Hazardous Polymerization:** Hazardous polymerization does not occur.

## 11. Toxicological information

### Effects of Exposure

#### General advice:

Contains: Bis(4-hydroxy-N-methylanilinium) sulphate. Based on animal data, may cause adverse effects on the following organs/systems: blood, kidney, spleen. Based on animal data this material can produce methemoglobin which, in sufficient concentration, causes cyanosis, a blue-gray discoloration of the skin and lips caused by a reduced ability of the blood to carry oxygen.

**Inhalation:** Harmful if inhaled. Airborne dust/mist/vapor irritating. In contact with strong acids or if heated, sulphites may liberate sulphur dioxide gas. Sulphur dioxide gas is irritating to the respiratory tract. Some asthmatics or hypersensitive individuals may experience difficult breathing. Some asthmatics or hypersensitive individuals may experience difficult breathing.

**Eyes:** Causes eye irritation. Airborne dust/mist/vapor irritating.

**Skin:** Causes skin irritation. May cause allergic skin reaction.

**Ingestion:** Harmful if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

#### Acute Toxicity Data:

- Oral LD50 (rat): 500 - 5,000 mg/kg
- Skin irritation: slight to moderate

#### Data for Sodium sulphite (CAS 7757-83-7):

##### Acute Toxicity Data:

- Oral LD50 (rat): > 1,600 mg/kg
- Skin irritation: none
- Eye irritation: slight; washing palliative

#### Data for Bis(4-hydroxy-N-methylanilinium) sulphate (CAS 55-55-0):

##### Acute Toxicity Data:

- Oral LD50 (rat): 237 mg/kg
- Oral LD50 (mouse): 565 mg/kg
- Dermal LD50: > 1,000 mg/kg (highest dose tested)
- Skin irritation: slight
- Skin irritation: slight to moderate (repeated skin application)
- Skin Sensitization: none
- Eye irritation (unwashed eyes): moderate to strong
- Eye irritation (washed eyes): slight

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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 (11 days): LOEL (Lowest observable effect level); 1.0 % in diet (reduced feed intake, reduced body weight gain, target organ effects: red blood cell)
- Oral (11 days): NOEL; 0.1 % in diet

## 12. Ecological information

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

### Potential Toxicity:

Toxicity to fish:	10 - 100 mg/l
Toxicity to daphnia:	10 - 100 mg/l
Toxicity to algae:	10 - 100 mg/l
Toxicity to other organisms:	> 100 mg/l

**Persistence and degradability:** Not readily biodegradable

**Chemical Oxygen Demand (COD):** 18 g/l

**Biochemical Oxygen Demand (BOD):** 15 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

For transportation information, go to: [www.kodak.com/go/ship](http://www.kodak.com/go/ship).

## 15. Regulatory information

### Notification status

Regulatory List	Notification status	Other information	Not listed
EINECS	y (positive listing)	-	
TSCA	y (positive listing)	On TSCA Inventory	
AICS	y (positive listing)	-	

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DSL	y (positive listing)	All components of this product are on the Canadian DSL list.
ENCS (JP)	y (positive listing)	-
KECI (KR)	y (positive listing)	-
PICCS (PH)	y (positive listing)	-
INV (CN)	y (positive listing)	-

A N (Negative listing) 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):	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.
U.S. California Prop. 65:	none
US. Pennsylvania Worker and Community Right-to-Know Law (34 Pa. Code Chap. 301-323):	Sodium sulphite, Sodium chloride, Bis(4-hydroxy-N-methylanilinium) sulphate
US. Massachusetts Commonwealth's Right-to-Know Law (Appendix A to 105 Code of Massachusetts Regulations Section 670.000):	No components are subject to Massachusetts Right To Know Act.
US. New Jersey Worker and Community Right-to-Know Act (New Jersey Statute Annotated Section 34:5A-5):	Sodium sulphite, Sodium chloride, Bis(4-hydroxy-N-methylanilinium) sulphate
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 313 Toxic Chemicals (40 CFR 372.65) - Supplier Notification Required:	SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR355, Appendix A):	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### 16. Other information

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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:

**CONTAINS: Sodium sulphite (7757-83-7), Bis(4-hydroxy-N-methylanilinium) sulphate (55-55-0)**

#### **WARNING!**

**MAY CAUSE BLOOD DISORDERS BASED ON ANIMAL DATA**

**MAY CAUSE CYANOSIS BASED ON ANIMAL DATA**

**MAY BE HARMFUL IF INHALED OR SWALLOWED**

**MAY LIBERATE SULFUR DIOXIDE**

**DUST, MIST OR VAPOUR IRRITATING TO THE EYES AND RESPIRATORY TRACT**

**CAUSES SKIN AND EYE IRRITATION**

**MAY CAUSE ALLERGIC SKIN REACTION**

Avoid breathing dust.

Avoid contact with eyes, skin, and clothing.

Use only with adequate ventilation.

Keep container tightly closed.

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. 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 center immediately.

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

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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

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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.

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R-2, S-2, F-0, C-0