

Safety Data Sheet

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Kodak alaris

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

Product name: D76 Developer

Product code: 5160304

Synonyms: PCD 5239

Relevant identified uses of the substance or mixture and uses advised against:

Identified uses: photographic processing chemical (developer/activator). For industrial use only.

Supplier: Kodak Alaris Inc., 2400 Mount Read Boulevard, Rochester, NY 14615

IN EMERGENCY, telephone: 1-800-424-9300 or +1 703-527-3887.

For further information about this product, email EHS-Questions@Kodakalaris.com.

2. Hazards identification

Classification of the chemical in accordance with paragraph (d) of 29 CFR 1910.1200:

| Hazard class | Hazard category | Route of exposure |
|--|-----------------|-------------------|
| Acute toxicity | Category 4 | Oral |
| Serious eye damage | Category 1 | -- |
| Skin sensitisation | Category 1 | -- |
| Germ cell mutagenicity | Category 2 | -- |
| Carcinogenicity | Category 2 | -- |
| Specific target organ toxicity - repeated exposure | Category 2 | -- |
| Acute aquatic toxicity | Category 1 | -- |

GHS-Labeling

Contains:

Sodium sulphite (7757-83-7), Hydroquinone (123-31-9), Bis(4-hydroxy-N-methylanilinium) sulphate (55-55-0)

Symbol(s):

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Signal word: Danger

Hazard statements: Harmful if swallowed. Causes serious eye damage. May cause an allergic skin reaction. Suspected of causing genetic defects. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. (Red blood cells, Kidney.) Very toxic to aquatic life.

Precautionary statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ protective clothing/ eye protection/ face protection. Avoid release to the environment.

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 CENTER or doctor/ physician. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/ attention. Specific treatment (see supplemental first aid instructions on this label). Take off contaminated clothing and wash it before reuse. IF exposed or concerned: Get medical advice/ attention. Collect spillage.

Storage: Store locked up.

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

HMIS III Hazard Ratings: Health - 3*, Flammability - 0, Physical Hazard - 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

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| Weight percent | Components - (CAS-No.) |
|-----------------------|---|
| 85 - 90 | Sodium sulphite (7757-83-7) |
| 1 - 5 | Hydroquinone (123-31-9) |
| 1 - 5 | Bis(4-hydroxy-N-methylanilinium) sulphate (55-55-0) |

4. First aid measures

Inhalation: If inhaled, remove to fresh air. Get medical attention immediately.

Eyes: Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility.

Skin: Wash off immediately with soap and plenty of water. Get medical attention if symptoms occur. Remove contaminated clothing and shoes. 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. Get medical attention.

Most important symptoms and effects, both acute and delayed: No information available.

Indication of any immediate medical attention and special treatment needed:

Treatment: Absorption of this material into the body leads to the formation of methemoglobin that, in sufficient concentration, causes cyanosis. Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body, including scalp and nails, is of utmost importance. If cyanosis is severe, intravenous injection of methylene blue, one milligram per kilogram of body weight, may be of value.

5. Firefighting measures

Extinguishing Media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment..

Special hazards arising from the substance or mixture

Hazardous Combustion Products: None (noncombustible)

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

Unusual Fire and Explosion Hazards: None.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Refer to protective measures listed in sections 7 and 8.

Methods and materials for containment and cleaning up: Shovel into suitable container for disposal. Clean surface thoroughly to remove residual contamination. Prevent runoff from entering drains, sewers, or streams.

Environmental precautions: No information available.

7. Handling and storage

Precautions for safe handling

Personal precautions: Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Use only with adequate ventilation. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Prevention of Fire and Explosion: Keep from contact with oxidizing materials.

Ventilation: Match ventilation rates to conditions of use so as not to exceed any applicable exposure limits (see Section 8).

Conditions for safe storage, including any incompatibilities: Keep in a dry, cool and well-ventilated place. Cool conditions (5 - 30°C). Keep container tightly closed. Keep away from food, drink and animal feeding stuffs. Keep away from incompatible substances (see Incompatibility section.)

8. Exposure controls/personal protection

Occupational exposure controls

| Chemical Name | Regulatory List | Value Type | Value |
|---------------|-----------------|-----------------------|---------|
| Hydroquinone | ACGIH | Time weighted average | 1 mg/m3 |
| Hydroquinone | OSHA | Time weighted average | 2 mg/m3 |

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Appropriate engineering controls: 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.

Individual protection measures, such as personal protective equipment

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

Hand protection: Wear protective gloves/ protective clothing.

Respiratory protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. If respirators are used, a program should be instituted to assure compliance with applicable federal, state, commonwealth, provincial, or local laws and regulations.

9. Physical and chemical properties

Physical form: solid (powder)

Colour: off-white

Odour: odourless

Specific gravity: No data available

Vapour pressure: negligible

Vapour density: Not applicable

Melting point/range: No data available

Water solubility: appreciable

pH: Not applicable

Flash point: Not applicable

Evaporation rate: No data available

Flammability (Solid; gas): No data available

Upper explosion limit: No data available

Lower explosion limit: No data available

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Partition coefficient: n-octanol/water: No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing properties: No data available

10. Stability and reactivity

Reactivity: No data available

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Hazardous polymerisation does not occur.

Conditions to avoid: No data available

Incompatible materials: Acids. Contact with strong acids liberates sulphur dioxide.

Hazardous decomposition products: Sulphur oxides

11. Toxicological information

Effects of Exposure

General advice:

Contains: Sodium sulphite. 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.

Contains: Hydroquinone. Suspected of causing cancer. Suspected of causing genetic defects.

Contains: Bis(4-hydroxy-N-methylanilinium) sulphate. May cause kidney damage based on animal data. May cause blood disorders based on animal data. 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.

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Inhalation: Airborne dust/mist/vapor may be 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.

Eyes: Causes serious eye damage.

Skin: May cause an allergic skin reaction.

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

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

Acute Toxicity Data:

Oral LD50 (Rat): 820 mg/kg

- Inhalation LC50 (Rat): > 22 mg/l / 1 hr
- Skin irritation: none
- Eye irritation: slight; washing palliative

Data for Hydroquinone (CAS 123-31-9):

Acute Toxicity Data:

Oral LD50 (male Rat): 400 mg/kg

- Oral LD50 (male Mouse): 100 - 200 mg/kg
- Oral LD50 (Rat): 298 mg/kg
- Dermal LD50 (Guinea pig): > 1,000 mg/kg
- Dermal LD50 (Rabbit): 74,800 mg/kg
- Skin irritation: slight
- Skin Sensitization (Guinea pig): positive
- Eye irritation: moderate

Mutagenicity/Genotoxicity Data:

- Salmonella typhimurium assay (Ames test): negative (in presence and absence of activation)
- Chromosomal aberration assay: negative (in absence of activation)
- Chromosomal aberration assay: positive (in presence of activation)
- Sister chromatid exchange (SCE) assay: positive (in presence and absence of activation)

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:

- Dermal (17-day, Rat): NOEL; 3800 mg/kg/day
- Dermal (17-day): Lowest observed effect level; 4800 mg/kg/day

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Developmental Toxicity Data:

- Oral (female Rabbit): NOEL for developmental toxicity; 25mg/kg/day
- Oral (female Rat): NOAEL for developmental toxicity; mg/kg/day

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 (Guinea pig): > 1,000 mg/kg (highest dose tested)
- Skin irritation: slight
- Skin irritation: slight to moderate (repeated skin application)
- Skin Sensitization: positive
- Eye irritation (unwashed eyes): moderate to strong
- 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:

- Oral (11 days): Lowest observed 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

Carcinogenicity

| | |
|--|---|
| American Conference of Governmental Industrial Hygienists (ACGIH): | A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans: Hydroquinone |
| 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 |

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California Prop. 65

or potential carcinogen by OSHA.

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

12. Ecological information

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

Potential Toxicity:

Toxicity to fish (LC50): < 1 mg/l estimated

Toxicity to daphnia (EC50): < 1 mg/l estimated

Persistence and degradability: Readily biodegradable

Chemical Oxygen Demand (COD): ca. 260 g/l

Biochemical Oxygen Demand (BOD): ca. 205 g/l

This product has not been tested for environmental effects.

Bioaccumulative potential

No data available

Mobility in soil

No information available.

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 below is provided to assist in documentation. It represents the dangerous goods classification before any regulatory exceptions are taken (e.g. "limited quantity") and therefore may not represent the final classification. The final classification as it pertains to the product packaging

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configuration (including labeling, marking, and exceptions) may be obtained via the Dangerous Goods Worksheet which can be found at www.kodak.com/go/ship.

IATA: UN number: UN3077

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (hydroquinone)

Class: 9

Packaging group: III

Marine Pollutant status: Marine pollutant

Marine Pollutant(s): hydroquinone

IMDG: UN number: UN3077

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (hydroquinone)

Class: 9

Packaging group: III

Marine Pollutant status: Marine pollutant

US DOT: UN number: UN3077

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (hydroquinone)

Class: 9

Packaging group: III

Marine Pollutant status: Marine pollutant

Marine Pollutant(s): hydroquinone

Reportable Quantity: hydroquinone

Reportable Quantity: 100 lb

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 | All listed |
| ELINCS | None listed |
| NLP | None listed |

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| | |
|-------|------------|
| AICS | All listed |
| IECS | All listed |
| ENCS | All listed |
| ECI | All listed |
| NZIoC | All listed |
| PICCS | All listed |
| TCSI | 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 Kodak.

Other regulations

| | |
|--|--|
| U.S. - CERCLA/SARA (40 CFR § 302.4 Designation of hazardous substances): | Hydroquinone |
| U.S. - CERCLA/SARA - Section 302 (40 CFR § 355 Appendices A and B - The List of Extremely Hazardous Substances and Their Threshold Planning Quantities): | Hydroquinone |
| U.S. - CERCLA/SARA - Section 313 (40 CFR § 372.65 Toxic Chemical Release Reporting): | Hydroquinone |
| U.S. - California - 8 CCR Section 339 - Director's List of Hazardous Substances: | Hydroquinone |
| 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): | Hydroquinone |
| U.S. - Minnesota Employee Right-to-Know (5206.0400, Subpart 5. List of Hazardous Substances): | Hydroquinone |
| U.S. - New Jersey - Worker and Community Right to Know Act (N.J.S.A. 34:5A-1): | Hydroquinone |

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U.S. - Pennsylvania - Part XIII. Worker and Community
Right-to-Know Act (Chapter 323 Hazardous Substance
List, Appendix A):

Sodium sulphite , Hydroquinone ,
Water , Sodium hydroxide

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:

D76 Developer

Contains:

Sodium sulphite (7757-83-7), Hydroquinone (123-31-9), Bis(4-hydroxy-N-methylanilinium) sulphate (55-55-0)

Symbol(s):



Signal word: Danger

Hazard statements: Harmful if swallowed. Causes serious eye damage. May cause an allergic skin reaction. Suspected of causing genetic defects. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure. (Red blood cells, Kidney.) Very toxic to aquatic life.

Precautionary statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/ protective clothing/ eye protection/ face protection. Avoid release to the environment.

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 CENTER or doctor/ physician. IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/ attention. Specific treatment (see supplemental first aid instructions on this label).

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Take off contaminated clothing and wash it before reuse. IF exposed or concerned: Get medical advice/ attention. Collect spillage.

Storage: Store locked up.

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

FIRST AID: If inhaled, remove to fresh air. Get medical attention immediately. Immediately flush the contaminated eye(s) with water for at least 60 minutes, while holding the eyelid(s) open. If a contact lens is present, DO NOT delay irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. Contact a physician or poison control center immediately. Continue flushing the eye(s) until the physician advises to stop. If necessary, continue flushing during transport to an emergency care facility. Wash off immediately with soap and plenty of water. Get medical attention if symptoms occur. Remove contaminated clothing and shoes. 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. Get medical attention. **Note to Physicians:** Absorption of this material into the body leads to the formation of methemoglobin that, in sufficient concentration, causes cyanosis. Since reversion of methemoglobin to hemoglobin occurs spontaneously after termination of exposure, moderate degrees of cyanosis need to be treated only by supportive measures such as bed rest and oxygen inhalation. Thorough cleansing of the entire contaminated area of the body, including scalp and nails, is of utmost importance. If cyanosis is severe, intravenous injection of methylene blue, one milligram per kilogram of body weight, may be of value. **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. Clean surface thoroughly to remove residual contamination. Prevent runoff from entering drains, sewers, or streams.

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-3, F-0, C-0 CARC